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PREFATORY NOTE

To one who has devoted himself to the field of psycho-analysis for more than fifty years, it is gratifying to note from this Special Number that it is now engaging the serious attention of thinkers who deal with fundamentals, the philosophers of science. I do not propose to comment on the individual contributions, but I should like to make two general remarks which may be apposite.

Freud inaugurated a new field of work, which may roughly be called the investigation of the unconscious and its derivatives, and he made the most important contributions to it. Nevertheless that field, psycho-analysis, is by no means identical with Freud's own writings, which included a good many opinions of a more personal nature. That he himself recognised this is shown by the following remark. When I used to argue with him about various points of disagreement, e.g. his beliefs in Lamarckism or telepathy, he jokingly replied : ' You must tell people that my personal sins are not part of psycho-analysis, any more than my Jewishness or my fondness for smoking.' His concept of a death instinct, for instance, expressed a personal conviction rather than a product of psycho-analytic work.

Again, I feel sure that a good deal of his more theoretical expositions were, as he would certainly have agreed, responses to his own intellectual needs rather than assertions of general validity. As he said himself, they were scaffoldings he found useful, but which could be replaced at any time if better ones were found. Freud was a free thinker in the best sense.

ERNEST JONES

EDITORIAL NOTE

There have previously been two special numbers of this *Journal*, the first to mark Berkeley's bicentenary, the second to discuss the status of the concept of 'the Age of the Universe'. This number is devoted to philosophical and methodological problems arising in and from psycho-analysis. Though it appears in the centenary of his birth, it is not a 'Freud Number', for two reasons. First, he was not greatly concerned with philosophy of science or methodology.[1] Second, as Freud himself always stressed, psycho-analysis should be discussed independently of its inventor and his views. It is true that for long enough psycho-analysis was practically the same thing as Freud's psychology. But this Number is not historical : it does not assess Freud's own contribution. Moreover, Freud progressively changed his own views, was fully aware of the existence of unsolved problems in his field, expected developments to take place after his death, and would certainly have welcomed genuine improvements on his own theories. In short, he was concerned more with psycho-analysis than with Freud ; and it is in keeping with his outlook that this Number should be devoted to the subject, not the man. (Even our review of the *Life* does not seek to stress how great a man he was.)

The function of philosophy of science is not to usurp the functions of the special sciences ; nor primarily to remove misunderstanding (though this is often involved). It is to raise questions, to reveal the existence of scientific problems of a fundamental nature, and to contribute to their solution by finding frameworks within which workers in the special sciences can seek testable theories. Philosophy of science has thus a highly critical rôle.

Indeed, criticism, i.e. informed criticism, is one of the essential activities required for making progress in science. It has always been so. Likewise with scientists and their theories. There are certain glories in the annals of science. Euclid wrote perhaps the earliest systematic treatise of plane geometry. It has defects. But criticism of these defects detracts in no way from our appreciation of that exquisite work. Newton's universal theory of gravitation was accepted for longer than any other theory of comparable explanatory power. Criticism has revealed deficiencies and has shown that it is in the strictest sense false. We can realise to the full his errors, such as his taking the velocity of light to be infinite, and yet keep the deepest regard for his general theory and the deduction from it of Kepler's laws. The same could be said for Maxwell's electromagnetic equations, for Einstein's theories of relativity, and for Schrödinger's wave-equation. So let it be with Freud.

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[1] The reader may be reminded of the ambiguity of this term. Its natural use would be for the study of method with the stress on technique. But in the field of this *Journal*, it is used exclusively for the study of the nature of scientific enquiry, the study of theories, concepts, and inference—for what could be called 'Metascience'.

Though philosophy of science is sometimes an indispensable part of a full scientific enquiry, critical discussions and general issues appear less and less in specialised journals. By this Number we hope to make a modest contribution with discussions of a kind that would appear only sporadically in the psycho-analytic journals. The papers included reflect only the views of their respective authors, for the *Journal* has no ' point of view ' ; its sole concern here is to have metascientific discussions of issues of psycho-analysis.

The papers in this Number fall broadly into three groups. The first group deals with the theoretical and technological framework of analysis and with a specific problem about analytic procedure. The second group of papers is concerned with a critical evaluation of certain theoretical concepts. The final group deals with more general matters of methodology concerning the position of psycho-analysis in relation to science in general and to perceptual knowledge.

FREUD'S THEORY

R. S. Peters

1 *Introductory*

It is usual for expositions of Freud's theory to take the form of a historical reconstruction. Freud is featured as the Copernicus of psychology and his discoveries are charted against the background of the psychology of his time as he slowly made explicit his revolutionary insights. In such an account prominence would be given to his discovery of unconscious processes, of repression, and of infantile sexuality, following the example of his own Introductory Lectures. But these assumptions were incorporated by Freud in a considerable texture of theory ; it may therefore be of value to set the whole theory out as briefly as possible so that it can be seen as a whole and compared with other theories. This is the purpose of this brief exposition.

2 *The Preservation of Equilibrium*

Human beings, like other organisms, tend to preserve a state of equilibrium. They are enabled to do this by their nervous system which is an apparatus having the function of abolishing stimuli, or of reducing excitation to the lowest possible level, an apparatus which would even, if this were feasible, maintain itself in an altogether unstimulated condition. Our mental life is a function of this apparatus and our experience of pleasure and pain reflects the manner in which this mastering of stimuli takes place.

Stimuli are of two sorts, external and internal (instinctual). The latter act as constant forces and are best described as needs. Flight will not avail against them, and the common distinction between ' outer ' and ' inner ' is due to this fact. Thus ' by an " instinct " is provisionally to be understood the psychical representative of an endosomatic continuously flowing source of stimulation, as contrasted with a " stimulus " which is set up by single excitations coming from without'. When considered collectively we may refer to these psychical representations as the *id*.

Instincts have

(*a*) An impetus—their demand on energy ;
(*b*) An aim—the satisfaction obtained by abolishing the source of stimulation ;
(*c*) An object—that in or through which their aim is achieved ;
(*d*) A source—the somatic process from which the stimulus results.

Thus instincts manifest themselves in mental life as emotionally charged ideas or wishes for objects the attainment of which will reduce the needs which initiated behaviour.

These wishes may be *conscious*, *preconscious*, or *unconscious*, the criterion at the purely descriptive level being introspective accessibility. If unconscious they are prevented from becoming conscious by *repression*, which manifests itself, especially during analysis, as *resistance* to attempts to bring them into consciousness.

Instinctual satisfaction is modified by perception of the environment, learning, and the development of speech. Restraint of motor discharge is effected by thought, which is imaginative experimentation, and the uncertain pleasures of the moment are renounced in favour of assured satisfaction later. The *ego* develops as an intermediary between the *id* and the external world, and the *reality principle* comes to supersede the pure *pleasure principle*. But a type of thought activity persists which is solely subservient to the pleasure principle. This is *phantasy*.

Many have thought that the distinction between the *primary processes* under the control of the pure pleasure principle and the *secondary processes* under the control of the reality principle, was one of Freud's most important contributions to psychological theory. He claimed that unconscious mental activity in dreams, phantasy, and in certain types of hysterical and obsessional thought follows the same laws and is of quite a different order from ordinary conscious mental processes. In the primary process there is, for instance, no consciousness of time, of contradiction, or of relation to the real world. *Condensation* of ideas and *displacement*, or the substitution of one object of an instinct for another object, take place freely ; thinking is carried on in pictures, not verbally, and is directed only by the striving for discharge. It is also characterised by its own type of *symbolism* in which no distinction is made between emotionally equivalent objects—e.g. penis and snake, the relation of representing, which characterises symbols of conscious thought, being quite foreign to it.

The clearest examples of instincts are the *ego-instincts*—e.g. hunger, thirst, and defecation, which manifestly are ways in which the organism preserves its equilibrium.

Allied to these are the *sex-instincts*, because

(*a*) they serve to preserve life, albeit that of the species rather than simply of the individual organism ; and

(*b*) their source is in the *erotogenic zones* of the body (mouth, anus, and genitals) and they are originally aroused by self-preservative activities like feeding and excreting.

But their aim is *organ-pleasure* and they later detach themselves from the ego-instincts and act independently. They are incorporated and work together in the final organisation of the sexual function, in the usual sense of ' sexual '.

This original classification of instincts, apart from its Darwinian justification, was adopted as a heuristic tool because, in the early work on the psychoneuroses, the root of the affections was found to lie in the conflict between the claims of sexuality and those of the ego.

(Freud suggested in his later work that in opposition to the *life-instincts*—i.e. the sex and ego instincts—and working against the tendency of the organism to preserve its equilibrium, was the *death-instinct.* According to this later suggestion every organism has also a tendency to destroy itself or to return to the inorganic.)

3 *Mechanisms for Preserving Equilibrium*

The external world, with its reservoir of stimuli, presents itself as alien and hostile to the developing ego. But the ego also has to defend itself against danger from instinctual wishes whose satisfaction would bring about disaster in the face of the physical or social environment. To deal with such dangers the ego employs certain *mechanisms* or techniques of defence, some of which are only partially successful. The onset of a danger situation is felt as *anxiety*, which represents both the feeling of helplessness in the face of great danger and the expectation that such a danger situation is imminent.

In some of the mechanisms the ego makes use of techniques which also characterise the primary process. In *identification*, for instance, *introjection* is employed ; for primary identification involves the putting into the mouth of what is perceived which is one of the child's most primitive ways of dealing with its environment. The mother is both imitated and taken into the mouth, there being little distinction between these two processes at the early stage in which the ego is not differentiated from the external world. In secondary identification, however, the ego loves an external object—e.g. mother or father—which it cannot attain, and guards itself against loss of the loved object by introjecting it or taking it into itself.

Projection, similarly, denotes the earliest type of rejection in spitting out what is painful. But as the ego develops as distinct from the external world, it wards off emotions or excitations which are a threat to it and attributes them to the environment. The offensive impulse is thus projected or perceived in another thing or person instead of being thought of as in the threatened individual.

In *sublimation* the aim or object of an instinct is changed without blocking it, which enables sexual strivings to be satisfied in a desexualised manner. This presupposes that the instinctual wishes are not repressed in such a manner as to produce pathological symptoms.

Repression is the most important of all the mechanisms. This defence consists in letting pass out of consciousness, and preventing from re-entering consciousness, wishes for or thoughts of events which represent possible temptations for disapproved of and punishable instinctual demands. The repressed, though unconscious, continues to exert its influence, and the individual is often beset by anxiety to which no object can be attached. But repression, though only a partially successful defence, prevents what has been repressed from being put to conscious use by the ego in motility. The cost of achieving such limited safety is often very great, especially as energy is used up in keeping the material repressed.

Reaction-formation is another defence against instinctual danger to the ego. It consists in an exaggerated tendency in opposition to the unconscious wish, in which the personality is permanently prepared for the onset of an insistent instinctual danger—e.g. the worshipper of cleanliness who thus struggles against his unconscious demand for dirt. A reaction-formation may ally itself with another drive, the aim of which is opposite to that of the feared instinctual demand.

In *rationalisation* the ego compromises with objectionable instinctual demands by satisfying them under the cloak of socially acceptable reasons.

In *isolation* the ego defends itself by isolating an idea or hiving it off from its emotional significance. Or the idea may be emotionally entertained but separated from motility. Day-dreams of murder illustrate the latter possibility ; the gratification of sexual desires by recourse to prostitutes, without any tender feelings towards them, illustrates the former.

Regression consists in dealing with frustration by returning to an earlier period of life when satisfaction was obtained. The period depends on *fixation.* For, in the development of the child, fixation tends to occur if there is too little or too much satisfaction of an instinct. This mechanism is not set in motion by the ego ; rather it presupposes a weak ego formation and is set in motion by the instincts which demand a substitute satisfaction. Thus a person who is blocked in adult forms of sexuality may regress to an infantile form of sexuality. To understand what is meant by this and to be clearer about the typical threats to the ego which occur at the different stages of development we must pass to Freud's next set of assumptions.

4 *The Development of Libido*

Freud was at first interested almost exclusively in the development of the sexual instincts and of *libido* or sexual longing—' that force by which the sexual instinct is represented in the mind '. This has definite stages.

The baby is subject to erotic sensations and is originally auto-erotic aiming at organ-pleasure from the different erotogenic zones. It is because of this primary *narcissism* that the sex-instincts take longer than the ego-instincts to become subservient to the reality-principle.

At different stages of development interest is centred on and pleasure predominantly obtained from the different erotogenic zones—first the mouth, then the anus, then the genitals. These are what are known as the oral, anal, and phallic stages of development ; and fixation may occur at any of them if frustration or gratification is excessive.

Love, which originates in the capacity of the ego to satisfy some of its instincts auto-erotically, is transferred to objects associated with organ-pleasure and expresses the motor striving of the ego after these objects as sources of pleasure. Love for objects is thus originally connected with feeding, care, protection, cuddling, and so on. It may be *anaclitic* if the mother is the object-choice, or *narcissistic* if directed predominantly towards the self.

The development of libido is complicated by Freud's contention that love is always *ambivalent*—i.e. accompanied by hate. The relationship between love and hate is so complicated that we cannot do better than quote from Freud's own summary in his definitive paper on ' Instincts and Their Vicissitudes ' :

> The preliminary stages of love reveal themselves as temporary sexual aims, while the sexual instincts are passing through their complicated development. First amongst these we recognise the phase of incorporating or devouring, a type of love which is compatible with abolition of any separate existence on the part of the object, and which may therefore be designated ambivalent. At the higher stage of pre-genital sadistic-anal organisation, the striving after the object appears in the form of an impulsion to mastery, in which injury or annihilation of the object is a matter of indifference. This form and preliminary stage of love is hardly to be distinguished from hate in its behaviour towards the object. Only when the genital organisation is established does love become the antithesis of hate.
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> The relationship of hate to objects is older than that of love. It is derived from the primal repudiation by the narcissistic ego of the external world whence flows the stream of stimuli. As an expression of the pain-reaction induced by objects, it remains in constant intimate relation with the instincts of self-preservation, so that sexual and ego instincts readily develop an antithesis which repeats that of love and hate. When the sexual function is governed by the ego instinct, as at the stage of the sadistic-anal organisation, they impart the qualities of hate to the instinct's aim as well.
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> The history of the origin and relations of love makes us understand how it is that love so constantly manifests itself as ' ambivalent ', i.e. accompanied by feelings of hate against the same object. This admixture of hate in love is to be traced in part to those preliminary stages of love which have not been wholly outgrown, and in part is based upon reactions of aversion and repudiation on the part of the ego-instincts which, in the frequent conflicts between the interests of the ego and those of love, can claim to be supported by real and actual motives. In both cases, therefore, the admixture of hate may be traced to the source of the self-preservative instincts.

(This view about the relationship between love and hate was later complicated by the introduction of the death-instinct. For Freud postulated that the self-destructiveness of the organism was often turned outwards towards objects in aggression or sadism.)

Masochism is a development of sadism. For instincts undergo what Freud called *vicissitudes* one of which is when an instinct, which is frustrated in relation to an external object, turns round upon the subject. Thus the original sadism directed towards an object in the external world may be turned on the self thereby occasioning pain together with accompanying sexual excitation. Another person may then be sought to inflict this pain, and this constitutes masochism. (The infliction of pain is not part of the original sadistic aim, only the mastery of the object.)

The development of libido reaches a culmination at about the age of four, when interest is centred predominantly on the genitals. This is the famous Oedipus phase. The boy wishes for sexual contact with his mother and develops as a rival of his father. The way in which this situation is resolved depends upon the degree to which masculinity or feminity (identification with the parent of the same sex) is developed in the boy or girl. For Freud postulated a fundamental *bi-sexuality*. In some masculinity and in others feminity will be more pronounced ; and this does not always follow the biological make-up of the child. Thus a boy in whom masculinity is predominant will wish for sexual contact with his mother and will be aggressive towards his father and fear castration at his hands, whereas a boy with pronounced feminine tendencies will develop a negative Oedipus complex and will wish for castration. The girl, similarly, may act out different rôles. The child, depending on his or her sexual make-up, can take either parent as a love-object or can identify himself or herself with either as an extension of narcissism and thus develop an *ego-ideal*.

The way in which the Oedipus situation is resolved is crucial in the formation of the *super-ego* which is the heir to the Oedipus complex. The beginnings of this occur in primary identification when the child introjects the mother or father together with parental prohibitions. When the ego is distiguished from the external world the loved object is also introjected as a defence against losing it. Thus identification succeeds object-cathexis and the super-ego is formed as a kind of precipitate of past object-choices, the later identifications re-inforcing and being superimposed on the earlier ones. As relations with the parents reach a climax at the Oedipus period the final character of the super-ego will depend very much on the type of secondary identification here adopted, which, in its turn, will depend a lot on the balance of masculinity and feminity in the child.

> The broad general outcome of the sexual phase governed by the Oedipus complex may, therefore, be taken to be the forming of a precipitate in the ego, consisting of these two identifications in some way combined together. This modification of the ego retains its

> special position ; it stands in contrast to other constituents of the ego in the form of an ego-ideal or super-ego.

In this way parental norms are effective in modifying the behaviour of the child without the parent having to be present to preside over the child's conduct.

But the super-ego is not merely a deposit left by early object-choices ; it also represents an energetic reaction-formation against such choices which are likely to be disapproved of and hence dangerous. The ego-ideal therefore stands also inside the child as an obstacle to the realisation of Oedipus wishes of an incestuous kind. The ego is re-inforced in carrying out its repressions by erecting, in the form of a reaction-formation, an obstacle within itself to the satisfaction of such objectionable demands.

The establishment of the super-ego brings to an end the Oedipus period and starts the period of latency. This continues until, with the development of sexual organs, genital sexuality proper develops.

5 *Causal-Genetic Assumptions*

In addition to the above principles, mechanisms, and stages of development we must also assume :

(*a*) that childhood wishes persist and, even if unconscious, exert a great influence on later behaviour.

(*b*) that the mechanisms we adopt to solve conflicts inevitable at the stages of development are formative in the development of character.

We can now sketch the sorts of explanations made possible by Freud's theory.

The general postulate of the persistence of unconscious wishes explains by means of the same principles the previously disconnected phenomena of dreams, phantasy thinking, art, unintentional acts like slips of the tongue, lapses of memory, failures in observation and attention, jokes, and thought constructions like those of religion, metaphysics, and Utopian politics.

The theory of infantile sexuality, the development of libido, and the persistence of methods of solving conflicts at the stages of development not only explains character-traits but also links these with the behaviour of neurotics. Previously disconnected traits are unified —e.g. orderliness, parsimony, pedantry, conscientiousness in the anal character. Examples of the way in which the operation of certain mechanisms rather than others at the stages of development tends to develop constellations of character-traits are :

the oral character and the link with schizophrenics and manic-depressives.
the anal character and the link with obsessionals and megalomaniacs.
the phallic character and the link with anxiety neurotics and hysterics.

The solution of the Oedipus situation along the lines of anaclitic or narcissistic object choice, together with the way in which identification takes place, is, of course, crucial in relation to the pattern of love relationships, set up and the influence it has on genital sexuality. Homosexuality, failure of men to love and respect women with whom they have sexual intercourse, sexual perversions, impotence, frigidity, and countless other such manifestations of sexual maladjustment are referred back to their infantile prototypes.

Freud was also bold enough to extend his principles to explain cultural phenomena. The social bond which links men together in groups was explained in terms of identification and aim-inhibited libido. Conscience was explained in terms of introjection, identification, and aggression turned round on the subject. Universal prohibitions like those on incest, totemic practices, and religious rituals were all fitted into the above system of explanation.

Examples could be multiplied of the fields to which Freud extended his principles of explanation. He produced a fertile and an exciting theory in that he not only put forward new explanations for hitherto unexplained behaviour but also linked together by means of his theory forms of behaviour which were previously thought of as disconnected. The attempt of this paper has been merely to present as coherently as possible the main principles by means of which he attempted to do this.

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PSYCHO-ANALYTIC TECHNOLOGY

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1 *Introduction*

Psycho-analytic theory is a body of closely connected theories that are widely understood in an intuitive way; many could state them in a broad form and assign to some theories their rôles; but highly specific formulations and the rôles of other theories have never been worked out. One can find accounts of libido theory, ego theory, dream theory, instinct theory, and so on. To present the subject in this way can be misleading; for it can divorce the theory of psycho-analysis from the problems it is concerned with. It runs counter to a fundamental point that has been made by distinguished exponents, that psycho-analysis is first and foremost a method and only secondarily a theory. Certainly no one can operate without a theory. Hence, when confronted with a problem, a theory must come first. And the various methods successively used in psycho-analysis were instigated by theories. But the significance or reference of the theories gets lost if they are considered apart from the methods they guided and the problems they faced. Moreover, important though the earliest theories were, the earliest methods acquired the status of a powerful new instrument because of the striking phenomena they revealed, and for this reason they overshadowed the theories. In this sense psycho-analysis was and is first and foremost a method. Another way of putting this is to say that psycho-analysis is primarily a technique and a technology and only secondarily a science. But in so far as understanding of disorders was separated from therapy, analysts had a theoretical rather than a technological aim.

What I wish to attempt is to state the sort of hypotheses that are involved in the technological framework, so as to distinguish technological hypotheses from theories, to show their respective rôles, to discuss their status, and to point out certain problems, mostly concerning testing, that have not received attention. I wish to present the subject technologically, because any other way puts the subject out of perspective.

2 *Remote Goals of Psycho-Analysis*

If we try to state the method and technological hypotheses of psycho-analysis, we first have to ascertain its aims. The ultimate aim as it might present itself to analysts cannot be cited from a classical text. But clearly the problem was to find the source of a symptom or of a disease. In order to pass rapidly on to the procedures of analysis, I propose to suggest briefly that the overall aim as it might present itself is to remove or diminish neurotic conflict. Conflicts that are not removable I call situational, and I distinguish them thus : that neurotic conflict in a person is not about other real persons, though it may appear to be, but about himself, while a situational conflict is about other persons (or derivatives). Analysis may diminish neurotic conflict, but may increase sensitivity to situational conflict. It may investigate the processes involved in either.

Penultimate long-term aims that have been suggested by eminent authorities include : realisation of one's Oedipus desires and fears ; full genital primacy ; reduction of the power of the super-ego ; development of the capacity to mourn ; reduction of persecutory and depressive anxiety. These goals may change with change of theories. Clearly technological hypotheses are assumed to connect treatment with penultimate aims, and also then with ultimate aims. Such hypotheses require to be made explicit because they can be questioned and revised. This is not attempted here because of limited space.

3 *Statement of Basic Theory and Technology*

We have now to try to describe the technology leading up to the more remote aims : that is to say, with the short-term aims. Analytic sessions consist of ' free associations ' given by the patient, followed by an interpretation given by the analyst, followed by further free associations, followed by a further interpretation, and so on ; that is all.[1] (The patient may sometimes himself give an interpretation, or part of one, quite correctly, but this has no bearing on what follows.)

To give ' free associations ' is to mention whatever thoughts and feelings come to mind, without deliberately making a selection, i.e. without deliberately passing over some of them—to make a selection for mention is to make a selection for rejection. What is said is ' free ' in the sense involved in free play. ' Free association ' means not that associations are undetermined, uncaused, or anything like that, but that they are free from interference of a certain kind, namely, deliberate selection and rejection. Freud used the term ‘psycho-analysis’ originally for investigations based upon free association. He had previously used and discarded hypnosis and then used and discarded a ‘pressure’ technique without hypnosis. For various reasons he gave these up. Relinquishing the methods and perhaps some of the technological hypotheses involved did not, however, necessitate changing the underlying theory when they were replaced through the introduction of free association. What was behind all these procedures was that ideas or experiences would come to light that the patient could not otherwise realise he possessed by introspection. Now it is clear even from this early work that free association alone was inadequate: that some ideas could not be made accessible to introspection even by this method unaided. (Free association remains today as part of the procedure, because it enables some ideas to emerge and also because it betrays to the analyst ideas that are inaccessible by introspection to the patient which might not be betrayed by selected associations.) To free association was added interpretations by the analyst, in particular ‘transference’ interpretations. It was the transference interpretation of free associations that even early on came to be regarded as being an essential component of psycho-analysis proper.

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[1] Psycho-analysis cannot be *defined* in this way, i.e. without specifying nature of the interpretations, but that is another matter.

It would be useful to try to state the theories and technological hypotheses involved in the early procedures, but for brevity I will restrict the attempt to those of the later procedure.

The basic theory would seem to consist of at least the following: (i) there are networks of ideas (we may speak of ideas to cover attitudes, thoughts, feelings, objects imagined inside the patient, and so on) that a patient cannot realise he possesses, because of inference by other networks of ideas, which also he cannot realise he possesses, so long as he relies only on free association. (This is a way of stating what is ordinarily described as ‘unconscious’ conflict.) (ii) These networks and their conflicts (*a*) influence the patient's ideas in all situations whatsoever, reproducing in various ways and degrees their mutual relationships, however difficult it may be to recognise them; and (*b*) influence in particular his emotional ideas at different times, so that childhood networks and conflicts influence adult emotional ideas. (iii) These networks are inter-related in accordance with a large group of theoretical hypotheses, what I am here calling ‘component theories’, such as the Oedipus. (iv) The networks influence, in particular, the associations given to the analyst. (v) A train of contiguous associations (however unconnected they may seem to ordinary modes of thought) (*a*) have a meaningful interrelation, and (*b*) in particular have a fundamental reference to the analyst. (vi) The mutual relationships of the networks of ideas are reproduced closely in the complex relationship between patient and analyst. The first might be called the hypothesis of the unconscious ; (ii *a*) the guise [1] hypothesis ; (ii *b*) the genetic hypothesis ; the third consists of component theories about specific structures and functions. These three together may be regarded as constituting the theory of the unconscious. The last three constitute the theory of the ' transference '.

It is important to note that what counts is not the *concept* of the unconscious but the *theory* of the unconscious. There is a widespread habit, usually innocuous, of speaking of an idea (or a concept) when what is meant is a hypothesis or a theory embodying the idea. This is not at all innocuous if it leads to attempts to show that the unconscious exists (or does not exist). This is of no more scientific value than if Pasteur had tried to show that germs exist. An explanatory theory never merely asserts the existence of something ; it asserts always that this something has such and such properties, powers, effects, and the like. No support for analytic theory comes from showing that there exists an unconscious so hidden that no ordinary means will give access to it. What would be relevant, however, would be to examine whether the hypothesis that there is an unconscious that displays itself in various guises, can explain our ideas and behaviour. For over half a century there have been disputes about the reasonableness or unreasonableness of the concept of ' the unconscious '. The basic concepts in all high level explanatory theories are nearly always ' unreasonable ' (cf. Newton's force at a distance, Maxwell's displacement vector, Einstein's absolute velocity of light, Schrödinger's wave undulating in no medium, the kinetic theory of gases, the atomic theory, or the gene). The scientific point concerns not a concept but rather what consequences follow from a theory. When Driesch introduced his enteleche, on the other hand, he introduced a concept but no theory ; it was therefore useless for explanatory purposes.

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[1] I introduce the word ' guise ' deliberately to avoid the faulty term disguise. One cannot read a disguise but only remove it, whereas a guise can be read (' He was not deceived by the guise of friendship '). The hypothesis is wider than that of symbolism in its classical analytic sense.

As regards these six ingredients, there is no space here to elaborate them or consider whether they are accurate or complete. They are put in the above summary form, not so much for their own sake as to enable us to see what sort of thing the basic theory is ; this will help us to assess its rôle and also the quite distinct rôle of the component theories.

Turning to the method, we may describe it as follows: When the analyst discerns the basic relationship between the networks, and between the networks and himself, he states them to the patient on the technological hypothesis that this will make him realise he possesses these ideas and the conflicts between them. In doing so the analyst makes use of the various theories in (iii) : that is to say, he interprets the ideas in terms of the theories of the Oedipus situation, guilt, anxiety, castration, omnipotence, anal eroticism, orality, homosexuality, persecution, depression, objects felt to be inside, and so on ; he also interprets whatever prevents certain networks from being accessible to the patient (this was originally known as ' resistance ' and now comes under the heading of ' defence mechanisms '). The interpretation might be put into the following framework : pointing out (i) the relationship discerned between patient and analyst (e.g. that the patient is afraid the analyst will punish him), (ii) showing the same relationship as linking a number of associations, bringing out the same relationship between the patient and other people in his environment, and (iii) indicating also when possible the same relationship in the patient's childhood life. The first, which is now sometimes loosely referred to as a transference interpretation, would be more appropriately called an analytic-situation interpretation or a patient-analyst interpretation. The second might be called an environment-interpretation (meaning current environment). The third might be called a childhood interpretation. Classically, however, the transference interpretation meant pointing out the third and first together or rather the carry-over of the relationship in the third to the first. A substantial body of analysts now use it also for the carry-over from the second to the first (which is also known as a ' here-and-now ' interpretation), although they would generally have the childhood situation in mind. Thus we might say that the transference interpretation, whether classically understood as something transferred from childhood to the analyst or extended to include something transferred from the environment to the analyst, was an interpretation containing interpretations. Each interpretation would contain parts, which might not necessarily be brought out at the same time. Thus the Oedipus would contain the three parts, hate of father, love of mother, and fear of castration. A transference interpretation would thus be an interpretation containing two or three complete interpretations constituted by partial interpretations. Since I am not concerned with technique, I do not discuss the great variation there is among analysts as regards the element they choose to interpret at any one time. The diagram will show how much there is to select from. Some analysts would operate in the main on a horizontal level; others in the main on a vertical level; others both at once. A complete transference interpretation would require all the divisions in the diagram to be filled in.

	wish	*threat*	*response*
	(or alternative readings)		
Analytic-situation (patient-analyst) interpretation			
environment-interpretation			
childhood-interpretation			

We have now to enquire into the short-term aim of an interpretation. It might appear that the aim is much the same whether a transference or an environment interpretation is given; is this so?

The aim of an environment interpretation is to make the patient realise some of the ideas he has and the conflicts between them that he did not know he possessed. This aim is only partially achieved by any one interpretation. So the day-to-day work is to get him to realise more and more, especially about ideas that the analyst believes on the basis of previous experience, theory, or other grounds, to be particularly important, e.g. the Oedipus situation, or persecutory and depressive anxiety. The aim with a transference interpretation differs in that overriding all these in importance (though not excluding them) is the growing realisation of the patient's relationships to the analyst, concerning dependence in all sorts of ways, like a child wanting to be warmed or fed, or an adolescent wanting to be told what to do, concerning anxieties like being afraid of criticism, physical attack, being robbed, concerning fear of doing these things to the analyst, concerning the need to be appreciated or loved and the need to love, whether in a childish or other way. The environment interpretation would aim at a growing realisation of ideas and relationships with people in the patient's environment; the transference at specific relationships with the analyst.

What, then, is the technological hypothesis involved? It is that the patient can *fully* understand his conflicts only if they are pointed out in these terms as well as in environment terms. The short-term technological aim may therefore be stated thus: to enable the patient to perceive certain relationships between himself and people in his environment through understanding his relationship to the analyst.[1] (It might seem that this should be put the other way round—to get the patient to see his relationships generally in order to see his relationship to the analyst. Analysts do at times proceed thus, but their aim is probably subordinate in that, even though they lead into the transference in this way, they do so with the further aim of making the patient more fully aware of his relationships generally.) Thus the immediate aim is clarification of his relationship to the analyst, but the purpose of this is to enable him to understand his environment relationships and thus himself. In short, the patient's understanding of his relationship to the analyst is the quintessence of understanding himself.

A qualification is required here. Though many analysts give a transference interpretation (transfer from environment to analyst) every day, most analysts would give them only at much longer intervals. It would therefore be incorrect to describe the *day-to-day* aim of these analysts as being to bring out the patient's relationship to the analyst. That is why I described it as the *short-term* aim. The day-to-day aim would be to pave the way to a suitable transference interpretation so as to reveal the patient-analyst relationship. For analysts who give a transference interpretation in every session, almost without exception, there is no difference between the day-to-day aim and the short-term aim.

4 *The Rôle of Component Theories*

It may seem strange to have gone so far with hardly a mention of the theoretical hypotheses or component theories—infantile sexuality, superego, instincts, wish-fulfilment, internal objects, and so on—that are commonly regarded as constituting the body of psycho-analysis.

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[1] Unless we wish to insert as a prior aim that of keeping the treatment going.

The reasons for the delay are that they do not constitute the body of the subject, and that they are of three distinct types, whose rôles cannot be assigned until the framework of basic theory and technology has been set out.

I wish to place in one class those theories or aspects of theories that have a corresponding technology. This would include that part of libido theory that concerns the erotogenic zones, that part of ego theory that concerns an internalised parent figure as superego, that part of dream theory that deals with wish-fulfilment, and so on. These theories play their part, because their technological forms are constantly used to promote the aims described. There are some theories or aspects of theories with less immediate technological hypotheses to correspond. Thus, that conversion hysteria is due to fixation at the phallic phase had at one time a technological counterpart : for it suggested to the analyst to stress (somewhat exclusively) references, however symbolic, to the phallus (not that this hypothesis is even now regarded as unimportant or false, but it no longer has such a unique and dominating status).

Contrasted with these is a class of theories with no technological counterparts. Thus some would hold there was no clinical bearing in the theory of the death instinct (this concept might be held to have a clinical use, for instance, if it is equated with a concept of a completely different theoretical status, namely, aggressiveness towards oneself), and the same might be argued concerning the quantity theory of psychic energy, or the theory that the function of dreams is to preserve sleep, or the theory that the more developed the ego the more it encroaches upon the id. Such theories would seem to be in a different class, designed (i) to give greater coherence to the theories with clinical application, and sometimes (ii) to have explanatory power. They seem also to differ from what I am calling ‘ basic ’ theory, in that they do not seem to have a clinical use.

Thus we have (i) unifying or explanatory theories (which Freud called metapsychology [1]) ; (ii) theories with technological counterparts ; (iii) theories consisting of hypotheses about mechanisms and (iv) basic theory about mental structure and function. The first are likely to catch the speculative eye and be turned into a sort of philosophy. The second and third are commonly regarded as constituting the body of psycho-analysis, without its being realised that they are not the only basis but that they are utilised only within a clinical setting based upon a more fundamental theory, i.e. (iv). (iv) is the basic theory I tried to state in the preceding section under six headings. Without this and the technological framework, it is to my mind impossible to assess the rôle of (ii) and (iii).

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[1] Freud's use of the prefix ‘ meta-’ is not the same as the use that has become standard in logic.

This rôle can now be stated : these two types of theories govern the contents selected by the analyst in giving the day-to-day interpretations.

5 *Summary Statement of the Framework*

To say that a statement is an interpretation, is to say (i) that the analyst sees in the associations a relationship between networks of ideas, which (ii) is governed by one or other of the component theories. The short-term aim of giving an interpretation (via the transference) is to enable the patient to understand this relationship and in terms of it to understand his relationship to his environment, i.e. to understand his conflicts. Pursuing this leads to greater understanding of the conflicts, including the ways they interlock, and this leads towards the ultimate goal. The penultimate goal may be introduced in the form of the hypothesis that, when a patient has understood his Oedipus conflicts, his persecutory and depressive anxiety, or whatever the penultimate goal adopted may be, then there is a satisfactory index that he has understood his conflicts, whether neurotic or situational, in a fundamental way.

6 *The Problem of Testing*

I turn now to the fundamental problem—that of testing. Ways of testing the following are needed :

(i) The technological hypothesis that the penultimate aim (genital primacy, Oedipus, persecution and depression) is a satisfactory practical index for the attainment of the ultimate aim ;

(ii) The technological hypothesis that the short-term aims conduce towards the penultimate aims ;

(iii) The technological hypothesis that an interpretation (notably transference) makes a patient a little more aware of his conflicts and their bearing on reality ;

(iv) The component theories that govern the relationships between networks of ideas and associations ;

(v) The basic theory.

In the interests of brevity I shall not discuss the first two.

7 *Testing Interpretations*

The question of testing the hypothesis (iii) about the effects of interpretations is quite fundamental. Interpretation would fail if it were badly done. This is where technique comes in. The technological hypothesis (iii) is in fact false unless it is taken to mean that the task of interpreting is carried out with a good technique. But, assuming that the technique is one accepted by practitioners, there is still the question of testing the validity of interpretations. It would be easy to argue that they do not differ so much from the interpretations we give every day about the attitudes of people we meet, and that if we trust these, why not trust analytic interpretations? The parallel may be admitted, but the criteria for ordinary life interpretations are not in any better shape than those for analytic interpretations. Besides, science has to have more stringent standards than commonsense.

To test an interpretation, whether in analysis or ordinary life, we have to have criteria for recognising when the interpretation is false. All analysts, I think, have intuitive criteria of this kind, and seem to have more or less the same criteria, but these are not articulated. A minimum criterion might be that it would be a refutation if the associations in response to an interpretation appeared to the analyst to be unconnected with the interpretation.

Let us consider in this connection understanding of a symptom and perhaps its change through an interpretation (this does not bring back the therapeutic aim; it concerns only the methodological significance of a change). The *de facto* disappearance of a symptom in the course of analysis gives no confirmation of anything. But there is a vitally important way in which disappearance, or at least change, of a symptom is significant, and that is when the interpretations have detailed connections with it. Suppose, for example, a patient came for treatment on account of a phobia about open spaces and that he received interpretations about the Oedipus situation; if he noticed that though his phobia had not yielded he was much more effective in his office, this improvement could not be taken to be firm confirmation of the interpretation (his analyst might see a connection, but then the question of testing this would arise). The situation is much more significant and is regarded as such by analysts when the interpretation has a connection with the symptom in terms of the theory, is understood by the analyst at the time as having this connection, and is followed within twenty-three hours by a marked change in the symptom. Generalised, this has no more significance than change in the pattern of associations in response to an interpretation, but it is more striking where a symptom is involved. Thus, what we have basically is understanding expressed as an interpretation ' confirmed ' by alterations in associations or other ways *intelligible in terms of the interpretation or a simple extension of it.*

It is here that confirmation is to be found if it can be found at all. By contrast we might say that an interpretation is false if the subsequent associations have no bearing on the interpretation. There is indeed a real problem in telling whether the associations have in fact no bearing on the interpretation. To the outsider no doubt most responses would appear to have no bearing. What they must do is to have a bearing, recognisable in terms of some theory (there is the obvious risk that we may accept associations as confirmation by bringing in one bit of analytic theory to support another). The most cautious line would therefore be to deny the relevance of the responses unless they could be understood in terms of the same theory as the one underlying the interpretation. But this would be too stringent—it would be impossible to pass from one context to another. Hence bringing in another theory to interpret the responses would have to be allowed. Even so, the methodological consideration of the risk involved suggests that all changes from one piece of theory to another should be noted, and if such changes are constantly occurring instead of being interspersed with the continuous use of one piece, then the whole process may be suspect and should be reconsidered.

It would appear, then, that we have the possibility of refutation, and therefore of confirmation, of an interpretation. But what of the classical objection that the effects of an interpretation are due to suggestion ? Analysts have never been impressed by this objection, because of the sense that anyone who really understood the subject would see at once that the objection was groundless. There is surprising difficulty, however, in stating an adequate answer. Clinical examples can undoubtedly be found in which suggestion could not have played a part ; but this does not suffice to show that it is absent from the general body of interpretative work. An adequate investigation of the matter would require a lengthy treatment. It is indeed unlikely that this would prove fatal to the technology ; but the possibility of far-reaching effects could not be ruled out in advance ; it is even possible that the investigation might lead to developments in theory, technology, and technique. However unlikely these consequences may be, and however hackneyed the objection, it is, I submit, worthy of attention. Until the possibility of the influence of suggestion is refuted in a clear and decisive way, the technology of interpretation must be, from a methodological point of view, uncertain.

Subject to a reserve on this matter, an interpretation would seem to be refutable in principle, and more specific criteria for falsity could with a little patience and industry be worked out (the details perhaps being bound up more with technique than technology). In short, the broad technological position is probably in order from the methodological point of view.

8 *Is the Basic Theory Testable ?*

What is the problem involved in testing whether a person has or has not a certain network of ideas ? Failure to find it may mean only that it has eluded us. If we believe that a pond contains fishes 10 cm. long and if our method of finding them is to use a net with 11 cm. meshes, we shall probably catch some fishes, but if we fail we cannot conclude that there are no fish. If the mesh is not fine enough the test is indecisive. When, then, are we going to accept defeat and agree that there are no fish or no such network of ideas ?

The impossibility of answering this question means that we have to approach the problem in some other way.

One that suggests itself concerns the interplay of theory, technology, and technique, which has characterised psycho-analysis from the beginning, improvements and defects in any one leading to changes in the others. The detailed story of this is most impressive. But it does not in itself constitute confirmation of the theory in the absence of an independent test ; for even if we get confirmation of the technology, we might fail to get confirmation of the theory. All that is justified is the presumption that it should be taken seriously and looked into. If, however, we do get a genuine test at some point, then this interplay at once becomes a powerful methodological support.

We may therefore try some other procedure, such as prediction, which is often thought of as being decisive. Prediction, however, constitutes a test for a scientific theory only in certain circumstances : one is that what is predicted shall be unlikely in relation to the rest of our knowledge ; another is that it shall be specific ; a third is that it shall follow deductively from the theory. Closely related is the discovery of unsuspected facts. Now analysis has led to unexpected discoveries, such as infantile sexuality. But this is not decisive unless it can be exhibited as a deductive consequence of the basic theory, as opposed to being merely ' in line ' with it. Thus the basic theory about networks of ideas of which a person is unaware suggests that there should be unsuspected facts about human nature, but it gives no hint of the kind of facts. By contrast, Maxwell's theory of electrodynamics suggested not only the existence of unsuspected phenomena (wireless waves) but specified exactly what properties they would have. When the discoveries cannot be specified thus from the theory, we can say only that it is on hopeful lines but may have to be completely recast. This can be brought home by recalling the mechanistic ' theory ' of physiology, namely, that the body functions in accordance with physical laws. This has been highly fruitful and led to the discovery of all sorts of unsuspected facts ; but being irrefutable it is unlike an established hypothesis ; no one really believes it outside the laboratory ; and we can accept or reject it only as a matter of unfounded belief ; which is not at all the situation where a hypothesis is of a refutable kind but where attempts to refute it that should have succeeded have in fact failed.

In my view Popper's criterion applies to *all* theories that purport to be scientific : that is, they must be refutable in principle, which means that we must be able to specify what situation, if the theory were false, would show that it was false. Without this, as he has made plain, no amount of supporting evidence provides any real confirmation at all ; it is easy to get endless support for even a false theory. But what is needed is the failure of refutation that ought to succeed. The next step always consists in making a deduction from the basic theory. Thus, instead of fishing in the pond with indecisive results we try to deduce from the hypothesis about the fish some observation that could refute the hypothesis if it were false. Our problem is whether the basic theory of psycho-analysis is in or can be cast into such a form as to make this procedure possible.

If this procedure cannot be carried out, then the theory would be in the position of the mechanistic theory of physiology—capable of endless support, yet never established because incapable of refutation should it happen to be false.[1] ' Theories ' in such a position are not theories on a par with the great classical theories in the natural sciences. They would be not theories but programmes, and their rôle would be limited to *suggesting* (as opposed to compelling) certain technological hypotheses. Moreover, the testability of the latter and their confirmation would provide no confirmation whatever for the former.

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[1] J. W. N. Watkins has recently given added stress to this important point of Popper's.

If we were to isolate from the basic theory one of its constituents, to do with conflicting networks of ideas, we should obviously be unable to test it. What we have to do is to deal with the basic theory as a whole. We might, however, be able to deal with the first three hypotheses alone. The first hypothesis concerns networks: the second gives their influence on life's contexts; and the third content to the networks; these might be testable independently of the set of hypotheses to do with the transference. But it is clear that the basic theory cannot be tested independently of the component theories (Oedipus, infantile sexuality, and so on) that give specificity to the networks. Everything hangs, then, on whether these theories are testable.

9 *Are the Component Theories Testable ?*

We have to be clear what question is being asked. We are asking what would constitute a refutation of, say, the Oedipus theory (resting on a hypothesis about highly inaccessible and conflicting networks of ideas) or the theory that dreams are failed attempts at wish-fulfilment.

Experimental testing of such a component theory (using that part of the basic theory consisting of three hypotheses, omitting those to do with transference) should be possible. Some of this work is striking but not decisive. Consider the experiment in which one subject under hypnosis was told to dream about a certain conflict, after which a second subject untrained in analysis was hypnotised, told the dream, and asked what it meant. It is very striking that the second subject should have been able to give the answer correctly, but it is not decisive because, if she had failed, dream theory would not have been refuted. This sort of situation might, however, be further developed, so as to provide a test. Outside experiment and outside the application to patients, it is far from easy to deduce from the theory conclusions that give at all decisive confirmation. But one possible deduction is that if excessively harsh punishments are meted out for a certain action (misdemeanour), then that action (misdemeanour) will become more frequent. This is completely contrary to commonsense. Nonetheless it appears to be true; however bizarre, it is the only construction that can be readily put on the historical records of crime and punishment.

The main means of testing, however, is through the technology. Assuming that the technology is testable and roughly speaking acceptable, we might fall into the mistake of thinking that what confirmed the technology automatically constituted confirmation of the component theories upon which it draws. Two points are involved here. One is that the technology should follow from the theory and not merely be suggested by it. Now some of the theories, such as instinct theory, the sleep-preserving function of dreams, and so on, are not testable, for there are no technological counterparts to follow from them. These may be candidates for becoming theories, or stimulating speculations, or be suggestive of technology ; but they are not strictly scientific theories, for they lack the possibility of being refuted. It is of interest that some practitioners believe they use some of these untestable theories in their work. If so, it should be possible to specify quite clearly what is the technological equivalent that is used in framing an interpretation. Otherwise the belief reflects only that the theories are somehow suggestive. For clinical practice this is legitimate : it is legitimate to draw on anything or to think one is drawing on something that helps one, provided one achieves one's goal ; but this in no way justifies the supports or gives them the status of theory or science.

Given that the technology follows from a theory, however, another important point is that the consequences offering confirmation should not be of a kind that we should expect independently of the theory. For example, let the technology vouch for all the Oedipus interpretations we happen to give. This would not constitute a test of the theory unless the technological confirmations ran counter to what we should otherwise expect if we lacked the theory. Now this condition is satisfied, for confirmations of Oedipus interpretations were most unexpected. Further, the Oedipus theory has been tried in cases where we should expect it to be refuted—with homosexuals ; but even here Oedipus interpretations have not been refuted, and hence there is strong technological confirmation.[1] And in this example the technology follows from the theory and is not merely suggested by it.

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[1] This does not mean that the Oedipus theory has no bounds, given that it passes the above test ; there is no inherent necessity that it must hold of communities with a different culture pattern. If it did not hold, it would simply be restricted in its scope, as happens with theories throughout the whole domain of science. On the other hand, it is no evidence against the theory as applied to primitives if investigators are untrained in analysis—only a person trained in the use of a microscope can see with it.

Thus, besides theories with no technological counterparts, which are not testable and therefore not scientific, there are psycho-analytic component theories with deducible technological counterparts that are testable, because in principle refutable, and therefore explanatory scientific theories ; but this is subject to the provisos that the several technological parts are, though refutable, independently confirmed, and that the effects of interpretations are not due to suggestion. The establishment of basic analytic theory and component theories depends fundamentally on confirmation of the technological hypotheses involved in the day-to-day work with patients.

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EXPERIMENTATION WITHIN THE PSYCHO-ANALYTIC SESSION[1]

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I *The Psycho-Analytic Method*

THE essence of the psycho-analytic method is, I think, that it gives 'meaning' to apparently meaningless sequences of thoughts and acts, that by making certain assumptions and applying certain rules derived from them it provides a rational explanation for apparently irrational behaviour. Different analysts emphasise different aspects of the method, according to their particular approach. In the following account—which contains, I think, the essential features to be derived from Freud's writings, though he may not have formulated them in quite this way—I shall emphasise those features which are characteristic of my own approach.

The basic procedural assumption of psycho-analysis is that the apparently disconnected thoughts produced by a patient in a temporal sequence during a therapeutic interview ('session') belong together dynamically, i.e. arise from a common, though unconscious, source; and further, that if the analyst applies to this series of thoughts—the so-called 'manifest' material—a set of (however vaguely formulated) operational rules to unravel distortions and to fill in certain missing 'repressed' items, the patient's apparently irrational outpourings can be explained in terms of an underlying unconscious

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'rational' content—the 'latent content'. These operational rules are based on what Freud described as 'mechanisms of the unconscious' (e.g. displacement), through which conflicting impulses are resolved into an ostensibly irrational behaviour pattern which is, however, consciously conflict-free. As an example of the analyst's use of these rules I may cite a patient of mine who spoke of his unqualified love for his dead mother, angrily criticised his wife for being a bad mother, then emphasised children's dependence on their mothers, and finally recalled a number of frustrating experiences he had suffered at his mother's hands ; I linked up these four sets of thoughts by assuming that his apparent uncritical love for his mother was due to the operation of a mechanism of idealisation which enabled him to hide from himself his anger towards her for being a frustrating, 'bad' mother ; and that he feared such anger since it conflicted with his dependence on an unconscious object representing her.

I should like to emphasise that the psycho-analytic method as so far described yields no more than unproved hypotheses (though nevertheless the only available hypotheses which account in rational terms for otherwise unexplained behaviour) which require confirmatory evidence before they can be regarded as scientifically validated. The kind of evidence to be sought will depend on the methodological status of the psycho-analytic method, about which there is, I think, some confusion among analysts themselves.

The customary method of investigation in the natural sciences is to observe events in the 'here and now', i.e. while they are taking place in front of the observer, either spontaneously or under experimental conditions set up by him. It is then possible to identify 'dynamic, ahistorical' causes,[1] i.e. the kind of conditions which have to operate in the 'here and now' of *any* situation in order to bring about a certain event. In contrast with this, the historian or archaeologist, using a 'genetic' method, reconstructs *particular* past events and so is able to explain how present-day conditions have been brought about in a particular case.

It has commonly been assumed among analysts that psycho-analysis is a purely genetic method. Indeed, Freud compared the analyst with an archaeologist who 'digs up' the patient's past. This was in keeping with his original view that what constituted the dynamic source for the thoughts and feelings which the patient expressed during a session (his so-called ‘ free associations ’) were his unconscious *memories* of unresolved conflicts of his childhood, and that the psycho-analytic method enabled the analyst to use the material produced by the patient in the session to reconstruct significant events in his past life and so the historical genesis of his symptoms and, by putting this reconstruction to the patient to remove these symptoms.

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[1] K. Lewin, *Principles of Topological Psychology*, New York and London, 1936, pp. 30 sqq.

However, even if this view of the psycho-analytic method had been correct, this comparison ignored an important difference between the archaeologist and the analyst treating patients. The archaeologist has to make his inferences about the past from such relics as *happen* to have survived and to have come to his notice. The analyst, however, deals with material which (according to Freud’s hypothesis of a common dynamic source of ‘ free associations ’) is *unconsciously selected for him by the subject of his investigation*, the patient, as dynamically significant and belonging together, and is presented to him by the patient in the ‘ here and now ’ of the consulting room, both spontaneously and in response to the analyst’s interventions. Such interventions would today consist mainly of interpretations pointing out the unconscious motivation of the manifest material, but in the early days of psycho-analysis included also many comments which were *non-specific* (i.e. which did not relate to the content of the patient’s thoughts) such as friendly admonition when the patient seemed to resist the analyst’s therapeutic endeavours.

Although there was thus a continuous interaction going on between patient and analyst, this ‘ here and now ’ aspect was at first disregarded methodologically, as being of no significance. Attention was concentrated on the study of the *content of the material* produced by the patient, in order to make historical reconstructions and so discover the psychogenesis of his personality ; the ‘ here and now ’ *process of eliciting significant material* seemed to be something quite separate, a purely technical matter, of interest only to the practising analyst seeking the most efficient way of treating patients.

This apparently clear-cut distinction disappeared, however, when Freud discovered that the resistance which patients showed against following his instruction to say everything that came to their minds, itself had an *unconsciously determined content* which had something to do with the here-and-now relationship between patient and analyst ; further, when he discovered that to the patient this relationship did not merely represent the objective treatment situation between doctor and patient but had had superimposed on it relationships which appeared to have existed between the patient and the emotionally significant persons of his infantile environment (relationships which up to the time of this discovery analysts had inferred solely from the content of the material produced by the patient) and which had now been transferred on the analyst in the ' here and now ' of the consulting room. Freud accordingly called this phenomenon ' transference '.[1] While patient and analyst had ostensibly started their work like two friendly archaeologists trying to dig up the patient's past, they were in fact two human beings interacting with one another, and the patient attributed to the analyst various rôles—friend or foe, victim or persecutor, and many other things—according to his temporarily dominant unconscious phantasies in the particular session.

There is thus no difference between analysing the content of the material produced by the patient, and eliciting new material by analysing the content of the patient's resistance against communicating it. Both consist in analysing his ' here and now ' relations with the analyst in which the patient's unconscious structures (the precipitates of unresolved conflicts with persons of his childhood environment) manifest themselves. The discovery of transference therefore brought about a shift of emphasis from the study of the patient's interpersonal relationships *outside* the analytic session (i.e. his contemporary and past outside relationships, especially those in his childhood) to the investigation of his relationship to the analyst *within* the session itself.

Another of Freud's discoveries, that of ' psychical reality ', acted in the same direction. By psychical reality[2] Freud meant the fact that an apparent ' memory ' uncovered in psycho-analysis often turned out to be a fantasy, but one which was nevertheless psychologically as effective as if it had been a memory of a real event. This meant that what the analyst was uncovering was not a replica of actual events in the patient's past life, but *unconscious structures active in the present* though formed in the past out of both phantasies and correct or distorted memories of actual events.

Methodologically, these discoveries imply, although this is not yet fully appreciated even in psycho-analytic circles, that—as stated by Rickman,[3] who started the process of clarification—psycho-analysis is an ahistorical dynamic method and not a genetic one.

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[1] S. Freud, *Introductory Lectures on Psycho-analysis*, London, 1949, pp. 367-372 original German edition, 1917)

[2] Ibid. pp. 307-309

[3] J. Rickman, Personal communication, 1945

Since these discoveries, analysts, when trying to uncover the unconscious significance to the patient of the manifest material produced by him, have varied in the extent to which they have used this material partly as transference material—that is, as the expression of the patient's *attempts to establish* certain kinds of relationship with the analyst in the ' here and now '—and partly as extra-transference material—that is, as communications in which the patient *reports* to the analyst his present-day or past relations with others (either openly or in a disguised form in which, e.g. the patient himself may ostensibly not figure at all) and which the analyst then tries to interpret as expressions of the patient's unconscious conflicts with others, especially with persons of his childhood environment. Many analysts who employ a fairly rigorous transference technique still feel a need in their interpretations to combine explanations in terms of the ' here and now ' with comments on the patient's past. However, if transference is operating all the time, I think we can safely assume that even ostensibly extra-transference material can never lack a ' here and now ' meaning. Indeed, ordinary everyday experience suggests that if, for example, a person speaks to a silent listener about some outside event, his primary purpose may be to try to share his joys and sorrows with him, perhaps to complain to him and make him side with him, or to enlist his sympathy, approval, or even active help. Equally, the significance to the patient of the analyst's interpretation, even one which is intended by the analyst to be a purely extra-transference interpretation, must be regarded as basically determined by the transference, i.e. by the unconscious significance which the interpretation has for him in his ' here and now ' relationship with the analyst.

It thus seems possible to treat *all* material as transference material and hence to use it for ' here and now ' interpretations. In this event, everything the patient says or does during a session—e.g. his movements, gestures, correct or distorted memories, reports of dreams or fantasies, and even deliberate lies—would have to be considered as the *idiom* used by him to give expression to his need in that session for a particular relationship with the analyst. Thus even the patient's reports to the analyst about his relations with other people, past or present-day, would be taken as attempts to *involve* the analyst as an active participant in relations which the patient entertains with his unconscious objects as they seem to exist here and now, and with their representatives in external reality.

2 *Evidence for Psycho-Analytic Hypotheses*

I shall now consider some types of possible evidence for psycho-analytic hypotheses. Where the psycho-analytic method is applied to non-clinical material, as e.g. in a biographical study, i.e. where the material is *not* selected for the analyst by the subject under investigation through his ' free associations ' and responses to interpretations, we have the only case where the analyst is methodologically in a position strictly analogous to that of the archaeologist. Here the psycho-analytic method relies upon essentially the same kind of evidence as do historical investigations. The more comprehensively any hypothesis put forward covers the available data, and the greater its internal consistency, the more convincing it will be. It will gain in probability if, having been derived from certain data, it can also explain new ' amplifying ' data which later become available. Finally, direct confirmatory evidence may be found, e.g. in an old diary of the subject in which he himself recorded what the analyst had inferred from other data.

As regards ' historical ' hypotheses (reconstructions of past events) based on material obtained in the psycho-analytic session, the genetically oriented analyst may similarly obtain evidence from *external* sources, and apparently also from *within* the session, i.e. from subsequent material produced by the patient, e.g. recovered memories or pseudo-memories.

However, as already emphasised, the psycho-analytic session is, like all therapeutic interviews, a here-and-now process. The material produced by the patient is interrupted by the analyst's interpretations, and we can thus distinguish pre-interpretation material, produced before the analyst's manipulative intervention, from post-interpretation material produced in response to it. Psycho-analytic sessions thus have a ready-made setting for experimentation, and it is somewhat surprising that analysts should not have deliberately set out to use it in this way (although in fact they have always to some extent carried out haphazard experiments in looking to the here-and-now reactions of the patient for the validation of their interpretations).

I think the main reason that no systematic experimental work has been attempted in the psycho-analytic situation is that analysts have not yet accepted the full implications of transference and psychical reality. This seems to be largely due to a belief that only genetic propositions can explain differences between personalities and hence why various people respond differently to the same external situation. For example, Hartmann and Kris [1] point to the failure in this last respect of an experimental (non-psycho-analytic) study by Barker, Dembo, and Lewin [2] and deduce from it that genetic propositions are indispensable for this purpose. However, it seems to me that this failure of Lewin and his collaborators was due not to their disregard for genetic causes but to the fact that their method did not allow the control of essential *dynamic* factors that were operating in the field at the time of their experiment, i.e. of the children's personalities. It seems to me unjustified to infer from this that the forces emanating from the children's personalities here and now can be explained only by reference to the *development* of these personalities. On the contrary, I think that—in keeping with Lewin's thesis that only such forces as exist at a certain time can have effects at that time[3] —genetic explanations are valid only because they include ahistorical dynamic causes. It could, for instance, be said that the genetic 'cause' of the submissive behaviour of one of my patients towards me in treatment is that a rebellious attitude, which he adopted in his childhood towards his father, happened to be followed closely by his father's death, and thus made him believe that it was his attitude which was responsible for this disaster. This genetic proposition, however, is valid only because it tries to explain this patient's behaviour at two points of his life, in his childhood and now, each time by reference to dynamic propositions, which are based on the same ahistorical dynamic cause of his submissiveness, i.e. that to him *events show that rebellious behaviour leads to the death of the person on whom one's welfare depends*. In childhood this dynamic cause operated in external reality when—in addition to other causes—his father's death made him substitute a submissive for a rebellious attitude ; [4] the same dynamic cause operates here and now in the psychical reality of his unconscious phantasies and makes him adopt a submissive instead of a rebellious attitude towards me in treatment. This last statement can, however, be formulated as an historical dynamic proposition in the here-and-now which explains this particular aspect of the patient's personality by reference solely to his present unconscious structures (unconscious object relationships) without any reference to the past.

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[1] H. Hartmann and E. Kris, 'The Genetic Approach in Psychoanalysis', *The Psychoanalytic Study of the Child*, 1945, I, 11-30

[2] R. G. Barker, T. Dembo, and K. Lewin, 'Frustration and Regression, an Experiment with Young Children', *Studies in Topological and Vector Psychology*, 1941, 18, I

[3] Lewin, op. cit. p. 34

[4] His father's death was, however, only one of a number of factors which at that time contributed to the formation of unconscious structures that changed the aggressive boy into a submissive one. Others were e.g. the state of development of his personality at that time and his constitutional frustration tolerance, both of which would influence the intensity of his aggressive reactions and thus the meaning he would attribute to such events as his father's death.

There are still other ways in which analysts' genetic orientation seems responsible for the neglect of opportunities for experimentation in psycho-analysis. In particular I think that often too little significance is attached to many of the interactions between patient and analyst. For example, the analyst may try to elicit new material by making non-specific comments with encouraging or slightly reprimanding intonations, instead of interpreting the ' content of the resistance ' ; or, he may not regard as appropriate material for interpretation ostensibly casual remarks which the patient makes at the beginning or end of the session, or his reports of ' real ' difficulties which he has in his outside relationships and in which he tries to involve the analyst. Finally, a genetic approach directs the analyst's interest away from the here-and-now significance of the material produced by the patient and towards extra-transference interpretations.

I think it very probable that it is these factors which are largely responsible for the unpredictability of the patient's responses.[1] The occasional appearance of the hoped for response to extra-transference interpretations may be explained by the omnipresence of transference ; I mean by this that underlying both an intended extra-transference interpretation and the ostensible extra-transference response of the patient is a here-and-now meaning of this interaction to the patient which contains its real dynamics. I therefore wonder whether, as long as the factors indicated above are not excluded, as they would be with a strict ' here and now ' approach, it is possible to formulate the dynamics of the pre-interpretation material and of the analyst's interpretation, i.e. to select and control the antecedent variables and thus to predict the patient's response. However, I think systematic studies are needed before this point can be decided.

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[1] The psycho-analytic literature is exceedingly poor with regard to criteria for correct interpretations, or with regard to a theory of predictable responses to interpretation. For example, S. Isaacs did not define the exact content either of interpretations or of the patient's responses to them. S. Isaacs, ' Criteria for Interpretation ', *The International Journal of Psycho-analysis*, 1939, **20**, 148-160

The views discussed above are illustrated by the statement of Hartmann and Kris [1] that, '. . . the psycho-analytic interview itself has repeatedly been characterised as an experiment. But this experiment, however rich, is fraught with uncertainties. Observers who use the same observational method have not reached agreement on many points, especially on those referring to the genetic propositions. And thus the problem of objective verification of these propositions gains in importance.' It seems to be the difficulty of controlling the variables involved which leads them to imply that the findings of the psycho-analytic interview are too subjective and which apparently makes them look to extra-sessional evidence for objective confirmation. It is not my intention in this paper to consider this kind of evidence ; such studies have already been made by, e.g. Hartmann and Kris,[2] Kris,[3] and Stengel.[4] However, one type of evidence which falls under this heading, namely, accounts of the uncovering in the psychoanalytic session of forgotten childhood events and their subsequent external confirmation, requires some comment. What is claimed is that the psycho-analytic method enables the analyst to reconstruct some event in the patient's past, i.e. to make valid inferences regarding an antecedent variable (Hartmann and Kris [5] call this ' predicting the past ') which is supposed to be responsible for the patient's thoughts during his session.

If valid extra-sessional evidence could be produced for such a reconstruction of the patient's past, this would, in my opinion, have all the essential features of a scientific experiment.[6] However, convincing though this may be as a demonstration of the objectivity of psycho-analytic findings, I think it would still leave open the question whether it provides a method for the experimental study of behaviour. For this purpose it would be necessary to show that a method which can prove (even though this may be done experimentally) the existence of unconscious traces of past events in the patient's thoughts during his sessions could thereby enable us to ascertain experimentally why an individual adopts a particular course of action in a particular situation, or to determine his responses in alternative conditions.

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[1] Hartmann and Kris, op. cit. p. 21

[2] Ibid. pp. 11-30

[3] E. Kris, ' Psychoanalytic Propositions ' in *Psychological Theory*, ed. M. H. Marx, New York, 1951, pp. 332-351

[4] E. Stengel, ' The Scientific Testing of Psycho-Analytic Findings and Theory ', *The British Journal of Medical Psychology*, 1951, 24, 26-29

[5] Hartmann and Kris, op. cit. p. 21

[6] I am indebted to Dr J. O. Wisdom for clarification on this point.

3 *Experimentation in Psycho-Analytic Sessions*

The recognition that transference is the omnipresent driving force behind a patient's behaviour during his sessions has important implications for the use of the psycho-analytic method as a research tool. As long as analysts focus their attention on the patient's behaviour outside the consulting room, and their interest in the here and now is limited to finding the best techniques of eliciting from the patient significant material the content of which can be used to make historical reconstructions, their conjectures cannot be tested within the psycho-analytic session and can be scientifically validated, if at all, only in other ways, e.g. through confirmation by outsiders, behaviouristic studies of children, and so on.

If, however, the eliciting of significant material and the study of its content merge into one task, i.e. that of examining the interactions between patient and analyst in each session, then it becomes clear that the essential object of psycho-analytic investigations—that is, the dynamics underlying the patient's behaviour and interpersonal relations—manifests itself, and so can be observed and studied, in the here and now. It ought therefore to be possible for the analyst to make these dynamics explicit in here-and-now interpretations: that is, to control the antecedent variables by selecting them from the pre-interpretation material and incorporating them in his interpretations, and to make predictions about the patient's responses to these interpretations. The psycho-analytic session thus becomes an experimental situation in which hypotheses can be tested through direct observation of the patient's behaviour.

Experimentation in the psycho-analytic situation therefore depends on the analyst's ability to select the antecedent variables, i.e. to identify the patient's unconscious object relationships which are determining his behaviour towards the analyst. A detailed description of the operational rules by means of which this can be done would go far beyond the scope of this paper, and I shall include here only some brief remarks in general terms.

When trying to understand a patient's behaviour, I always ask myself: 'What makes this patient say and do these things in front of me at this moment?' I make my interpretative comments as soon as I think I can distinguish in the material *three kinds of object relations* which, though ostensibly independent of one another, can be linked up into a rational pattern by assuming that the patient feels compelled to adopt a certain course of behaviour and to avoid another *because* he fears the latter's supposedly disastrous consequences.[1] The three kinds of object relations are thus : first, one which the patient tries to establish with the analyst and which I call the *required* relationship, since he requires it in order to avoid the second, which I accordingly call the *avoided* relationship ; this he feels he has to avoid in external reality because he is convinced that if he gave in to his secret desire of entering into it this would inevitably lead to the third relationship, a *calamity*. This conviction could be explained by making the hypothesis that in his unconscious phantasies, his inner world of psychical reality, he does establish the avoided relationship with an unconscious object, with calamitous consequences. For example, the patient mentioned above adopted a submissive behaviour pattern (required relationship) and avoided being rebellious because he feared that rebellious behaviour would lead to the death of the person on whom his welfare depended.

The therapeutic process in psycho-analysis is as yet far from adequately studied ; however, I shall quote below recorded case material in support of the proposition that the putting to the patient of an interpretation of the kind described above induces a process of *reality testing*, which I think is the essence of psycho-analytic therapy. The interpretation enables the patient to test his unconsciously determined fears in external reality when the avoided relationship materialises by being made explicit by the analyst (in group therapy sometimes by another patient). He is thus helped to assess the true effects of the avoided relationship and, comparing them with the unconsciously expected calamity and realising that the latter has not materialised, he becomes capable of giving less disguised expression in external reality to his hitherto avoided behaviour pattern.[2]

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[1] In my view, every interpretation, to be effective, must contain such a ' because clause ', either explicitly or implicitly, i.e. must point out to the patient *why* he is adopting a certain course of behaviour.

[2] It also seems to enable him to integrate the experience gained in that session with experiences outside the analytic situation—experiences both in his present environment and in his past. I have recorded case material which suggests that it is unnecessary for the analyst in his comments to make this link between the here-and-now relationship, and the patient's interpersonal relations of his infancy. To avoid misunderstandings I now use the term ' here-and-now interpretation ' solely to describe interpretations which refer to the patient-analyst relationship in terms of the three object relationships connected by a ' because clause ', as outlined above, as distinct from the usual term ' transference interpretation ' which generally denotes *any* kind of reference to the patient-analyst relationship *combined* with a reference to the patient's childhood.

Experiments carried out in this way allow the formulation of two ' laws ' which, I think, have been amply validated in many sessions which I have recorded.

> The first law is : if we set up a field by putting together a patient in need of treatment and a therapist presumed to be capable of satisfying this need, and if the therapist assumes a passive, non-directive rôle, then the patient will display in his words and actions a manifest form of behaviour from which, by applying certain operational rules, three kinds of object relations can be inferred : (i) the required relationship, which he has to adopt to escape from (ii) the avoided relationship, which he believes will lead to (iii) a calamity.
>
> The second law is : if the analyst then gives a here-and-now interpretation—that is, points out the hidden dynamics of the patient-analyst relationship in terms of these three object relationships and their connection, by means of a ' because ' clause—the subsequent material produced by the patient will contain the avoided object relationship in a clearer, i.e. less repressed, form.

I may mention here that, on the other hand, a study of my recorded case material shows that the avoided relationship does not appear in a less repressed form after comments which deviate from here-and-now interpretations.

What is expressed in the second of the above two laws is of course no more than the well-known proposition which underlies all psycho-analytic theory and practice—namely that psycho-analytic interpretations enable the patient to become conscious of his hitherto unconscious needs. A here-and-now approach, however, enables this proposition to be tested experimentally, and even to be expressed quantitatively if we use, like K. Lewin, a non-metricised topological approach—for instance, by taking as one of our yardsticks for the diminution of the patient's repression of an avoided object relationship its distance from his here-and-now relationship with the analyst.

The clearer manifestation of the avoided relationship which can be predicted as the consequence of a here-and-now interpretation may be expressed by the patient in many ways, i.e. it corresponds to a whole group of possible responses. The prediction is nevertheless not ambiguous, since the implied object relationship can be identified by means of operational rules which have been defined beforehand and which can thus be applied by a number of trained observers who ought to arrive at the same conclusion independently.

Ideally, our predictions regarding the clearer manifestation of the avoided relationship should be correct in all cases we observe. If, however, in certain cases the expected response does not appear, I think we are entitled to assume the existence of yet unknown additional factors, provided we can, at least in some ‘ pure ’ cases, demonstrate that the antecedent variables (as assumed by us) do lead to the predicted results. In these cases the predictions are so specific as to rule out the possibility of explaining their fulfilment as insignificant chance results.

Several objections have been raised against the possibility of using the psycho-analytic session as an experimental situation. One is that the data concerned cannot be examined by other observers. However, this is no longer true, thanks to the use of electrical sound recordings. An analyst who uses here-and-now interpretations to deal effectively with patients’ anxieties (e.g. persecutory fears) stimulated by the knowledge of being recorded, will be able openly to suspend microphones, both in individual sessions and in groups. Such records can be subsequently examined by other observers—naturally with due precautions to observe the patients’ anonymity.

Another objection is that phenomena observed in psycho-analytic sessions are unique and that only events which can be repeated can be made use of in experiments. I think this view is based on two misunderstandings. One is the clinging to the view that psycho-analysis is a method which reconstructs the unique history of an individual, rather than a method capable of studying events in the here-and-now. The second misunderstanding concerns what has and what has not to be observed repeatedly in order to form the basis of experiments or of scientific statements in general. Every event in the universe is unique if we take into account *all* its features. What matters is not that two experiments should be identical in every respect, but that they should have in common those properties which are dynamically significant for the particular kind of event which is being studied. Whatever a particular patient reports in his session about his experiences in his remote or recent past is bound to be unique, but the psycho-dynamically significant elements of this account are by no means unique, and it is these elements which form the antecedent variables and allow the observation of phenomena under experimental conditions and the formulation of scientifically valid statements about them.

A third objection is that the patient's statements to the analyst are unreliable since they are based on introspection. But if a here-and-now approach is used the reliability or otherwise of the patient's statements is irrelevant, since the object of study is not just what he says but why he says it to his analyst at that particular moment.

A fourth objection is that the analyst's interpretations may be incorrect. However, while it is essential for successful therapy that they should be correct, this is immaterial for the use of the psycho-analytic method for the study of the patient's behaviour. The incorrect as well as the correct interpretations given by the analyst during the session are events to which the patient reacts in ways which can be studied and assessed.

I shall now quote part of an electrical sound recording which I made of a psycho-analytic group session. I selected this short episode because I think it provides particularly clear evidence for a number of points which I shall discuss later. However, I should like to emphasise that what was dealt with in this session, namely, a woman patient's apparently trivial impulse to say the word ' fart ', was in fact the carrier of considerable anxiety connected with masturbation and with a number of destructive phantasies.

For the purposes of what I want to demonstrate, the main part of the session is irrelevant. Essentially, the group were discussing subjects which suggested that they were concerned about my announcement in the preceding session that I would be away for four weeks. In my interpretation I put it to them that such an imposed break aroused fantasies in them of my going off with a woman in order to have sexual pleasures with her and that this aroused their jealousy and aggressive impulses, the consequences of which they feared and which, as I pointed out to them in turn, each tried to cope with in his own particular way.

Mrs X, the patient mainly concerned in the episode I am going to quote, casually remarked on coming into the room : ' Your room smells beautifully of hyacinths ', but the rest of what she said in the first part of the session did not seem to have any obvious link with this remark, and I did not refer to it when interpreting to the group or to her. In the course of the session she had said that there were two things on her mind, but that she could not speak openly about one of them : ' I can't say it. This remark—I shall have to think of a way round it. A nice euphemism.' What she said about the ' other thing ', and what this suggested to me, is perhaps most easily seen if

I quote my remarks to her when giving my interpretations to the group.[1] Turning to her, I said :

E : Now Mrs X tells us that she is prepared to tell us one thing but not another, and if she does say something about the other thing, then it must be expressed in a more euphemistic form, which is tolerable. [I don't know whether she has or has not——

Mrs X : Hasn't.

E : She hasn't. What is finally the important thing——

Mr Y : She would have been very euphemistic if she had.]

E : What she *has* said so far is that she wants to masturbate, to overcome frustration here, that if I make a break at Easter it must be because I am going off with another woman, it could not be for any other purpose, and if I do such outrageous things what she is anxious to do is to frustrate *me*——called Z.

(Z is her little son, who attends an orthopaedic hospital for some minor ailment. In the earlier part of this session she had announced that since I was going to be away she would take a week's holiday and that ' unfortunately ' Z would therefore have to miss his treatment.)

She somehow tries to interrupt *my* intercourse with somebody. You see, the doctor doesn't get Z, or Z doesn't get what he wants. That relationship between Z and his doctor must represent to Mrs X my relationship with some other woman, and that's what she really tries to interrupt, and probably that is the content, the essential content, behind her masturbation wishes, and phantasies. Now, what the other thing is, I don't know.

Mrs X : It is one word which I can't say in any other way. (Laugh) I just can't say it. Oh dear ! Never mind.

[Mr Y (turning to Mrs X and teasing her) : Whisper it to me and I will think of the technical term. (Laugh)]

(I then spoke about Mr Y's particular attitudes towards today's group situation and went on to point out to the whole group a required relationship which all of them, and especially the women, seemed to use, i.e. that of idealising me. They thus tried to stop themselves from attacking me—avoided relationship—so as not to end up in calamities they dreaded to varying extents, i.e. of doing irreparable harm to me or of driving me to the point of persecuting them. I thus finished my remarks by saying that I represented to them :)

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[1] The following (as well as the remarks of Mrs X above) is a verbatim report of the electrical sound recording, edited only to the extent of the replacement of the patients' names by letters which are not their initials, and the insertion of a few clarifying explanations. I have put these explanations and behavioural observations into round brackets. Square brackets contain remarks not bearing directly on the points which this quotation has been selected to illustrate.

E :——the ' ideal ' man with the ' perfect ' penis who can even stand up to whatever Mrs X or Miss R want to do to that penis in their masturbation phantasies, and doesn't persecute them.

MRS X : What is behind that curtain over there ? (Points to a curtain in front of the fireplace.) I suddenly saw it move.

[MR Y : Fire grate.

MRS X : What ?

MR Y : Fire grate.

MRS X : Do you think it is a fire grate ?] Perhaps there was a draught coming down the chimney. I suddenly had a horror there was somebody behind it. (Laugh)

[MISS R : Chimney sweep.]

MRS X : I also had a horror—not a horror but a rather surprised feeling—that Dr Ezriel's desk could stand up.

[E : That Dr Ezriel's desk——?

MRS X : Could stand up.] At this point it might easily fall down in the middle.

E : This penis ! (Laughter) [You know, it is not very difficult——

MRS X : No, it is not very difficult. (All laugh ; Mr Y makes some unintelligible remark.)]

E : The desk that stands up and falls down, and secret things going on behind the curtain——

MRS X : I know.

E : That's where I am with ' *her* ', that's where this couple is ; and if Mrs X comes into this room and welcomes the smell of hyacinths and now sees draughts behind a secret curtain, what she probably does is to launch all the attacks with wind and stool——

MRS X : That was very clever, that was precisely what I wanted to say and couldn't say. (Laugh)

[MR Y (sarcastic) : How very shy you are !

MRS X : No, I just thought, I can't say it. I just suddenly——(becomes unintelligible).

E : You can't say——what ?][1]

MR Y : You cannot say wind, you can only think of *fart*. (Laughs) [1]

MRS X : Yes, well, I thought if I said——if I said wind, you would all just laugh at me. I couldn't say it. I had to say it properly. (Laugh)——luckily supplied, but I had a sort of thing, I had a sort of mild impulse to *fart* earlier on, and——

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[1] These were said simultaneously.

[MR Y : Good !

MRS X : Yes, that was good, wasn't it ?] And it seems to me that if I did, it would not only be a sort of social enormity, but also—— [(Laughter and some indistinguishable sounds.) No, it seemed ——in my mind——(Mr Y laughs ; Mrs X turning to Mr Y) : Be quiet a minute, I want to finish this——(turning to the group :)] It seemed in my mind to be literally like a big bomb. But I just sort of thought of it as a—you know—as a sort of big and warlike explosion. (All laugh)

MISS R : I keep thinking about S (her former boy friend) [because he was terrible in that way. He really was. He did it on purpose.] That was his particular form of aggression. (All laugh)

MRS X : It's mine too, actually, but a lot of people I know do it on purpose. It is a very mild form of aggression, really.

[MISS R : It wasn't, it made a terrific noise with S. (All laugh)

MR. Y : Especially when Mr T's picture of you is very nice.

MISS R : Oh dear !

MR T (joking) : I feel frightfully jealous of S.

MISS R : It is very useful S has melted quite into the blue, so I haven't any feeling of loyalty towards him. I feel I can say anything at all I like about him. It doesn't matter.]

MRS X : The annoying thing about that is, it was very clever of Dr Ezriel to ferret it out, but it hasn't told *me* anything.

E : But it——?

MRS X : It hasn't told me anything, because I knew all that already.

MR T : It has told us. I thought you were thinking something much worse.

MR Y : I think you are inclined to fool yourself retrospectively.

MRS X : I am *not* inclined to fool myself retrospectively. I deliberately said that I——there was something else, but I really couldn't say it.

MR Y : But you wouldn't say that——when you——(Some words indistinct on the record.) [1]

MRS X : I just thought it was clever to think about the hyacinths. (Turning towards Mr Y) No, of course I didn't think about it then.[1]

MR Y : Did you really think, when you mentioned about the curtain, of Dr Ezriel and a woman farting at each other ?

MRS X : No, I didn't.

[MR Y : What you mean when you say you haven't been told anything, is that you rejected the interpretation, which is rather different.

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[1] These were said simultaneously.

MRS X: No——oh dear !]——I just thought it was very clever of him to——Oh well, I am not going on.

It is obvious from Mrs X's remark that her impulse to pass wind and, on the other hand, the phantasies of interfering with the intercourse of a couple who made her jealous (by attacking them and by making them attack one another with blasts and bombs) were quite conscious. In the course of her treatment these phantasies which had originally been hidden behind her masochistic phantasies had gradually emerged and had been tested with regard to their harmlessness in external reality, both singly and in various combinations, in many scores of preceding sessions, including the earlier part of the present session. What she had apparently tried to do on coming in (with her remark about the smell of the hyacinths) and still found distressing after my first interpretation, and therefore tried again by speaking about a draught coming down the chimney, was to give expression here and now to a *combination* of numerous destructive phantasies with impulses to masturbate and to pass wind, all of which were directed against me, while at the same time she was anxious to maintain a safe relationship with me as the person whom she had endowed with the qualities of an 'ideal object' capable of satisfying all her unfulfilled wishes and of surviving her dangerous impulses. The word 'fart' had become a keyword which combined her aggressive phantasies and impulses and was thus charged with all the pertinent feelings of anxiety which originally belonged to them; her problem was how to express all it contained in front of me without endangering her relationship with me for ever.

This episode shows that even though a patient may be conscious of the whole conflicting thought content, the means of expressing it are chosen quite unconsciously. Mrs X subsequently confirmed in reply to Mr Y's question that when speaking about the smell of hyacinths, or the draught behind the curtain, she in no way linked them up with her impulse to pass wind or her aggressive phantasies towards the jealousy-arousing couple. This translation into a language which hides the avoided impulse confirms several of the 'mechanisms of the unconscious' (such as displacement, symbolism, or reversal; wind from her body is turned into a draught from the chimney, the bad smell into a good smell) which break up the originally rational, coherent thought into ostensibly irrational bits.

The overcoming of Mrs X's resistance to speak was achieved entirely by interpretation, and it is obvious that interpreting the content of the material and eliciting new material were identical here and now activities.

Mrs X interrupted me before I could point out to her the calamitous relationship or the ' because ' clause. Apparently she found this superfluous, since I had already done it in my previous interpretation to the group. My remarks about the avoided relationship were completed by Mr Y, who actually said the word ' fart '. In this way, Mrs X could test on objects in external reality her relations with unconscious phantasy objects and obtain proof that the disasters which ensued in her unconscious world would not repeat themselves in external reality. It was this process of reality-testing which enabled her (in keeping with the second law formulated above) to give expression to the hitherto avoided relationship in a less repressed form, i.e. to use the word ' fart '.

This freeing of the patient from certain unconsciously determined anxieties, which enabled her to do something she could not do before the interpretation, is one of the many minute steps of this kind that in their aggregate constitute psycho-analytic therapy. This instance does not, of course, mean merely that a patient who could not say ' fart ' in my presence can do it now ; it means a reduction in anxiety concerning her masturbation, her whole sexual life, and her life in general, and thus a freeing of energy for other activities. An episode like this shows the dynamic links between certain events in psycho-analytic sessions and a diminution of corresponding anxiety, and thus avoids fallacies frequently observed in assessing the results of long-term therapy. Such fallacies are due to unknown intervening factors, to the phenomena of positive and negative transference,[1] and especially to our present lack of objective means of assessing a personality in all its aspects. This lack may, for instance, result in an impression of ' improvement ' in a case in which increased repression leads to the disappearance of symptoms in one area accompanied by the emergence of more serious but less obvious disturbances in another.

It is sometimes said that a patient's response to an interpretation has been *suggested* in the analyst's remarks, or *stimulated* in the patient's mind according to the well-known laws of association. I think, however, that such criticisms are refuted by an episode like this, where the patient responds to the analyst's interpretation by expressing thoughts which she herself had *consciously wanted* to speak about *before* the interpretation, without however daring to do so.

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[1] Transference may, e.g. cause a transient improvement (' flight into health ') or deterioration, both of which may aim at avoiding frightening impulses towards the analyst.

Finally, I wish to point out that both in this session and in the rest of the treatment of this group, I refrained from making any reference to the past and used solely here and now interpretations as described above. On examining the records of their sessions, I cannot notice the absence of any of the significant phenomena usually seen in psycho-analytic treatment conducted on the customary lines of combining a genetic with a here-and-now approach. However, a strict here and now approach also allows experimentation in the psycho-analytic session, i.e. its use for the study of the behaviour of an individual in a need situation, which is the prototype of human behaviour.

Summary

In this paper I have tried, by means which include the verbatim quotation of a recorded extract from a psycho-analytic session, to show that a ' here and now ' approach, without reference to the patient's past, overcomes objections which are commonly brought against the possibility of using the psycho-analytic session as an experimental situation in which hypotheses about human behaviour can be tested.

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A CRITICAL EVALUATION OF CERTAIN BASIC PSYCHO-ANALYTICAL CONCEPTIONS

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1 *Introduction*

In what follows an attempt is made to evaluate critically certain basic psycho-analytical conceptions which were originally formulated by Freud, and which have hitherto been accepted by psycho-analysts more or less without criticism. The conceptions in question are (1) Freud's libido-theory, (2) his theory of instincts, and (3) his theory of the mental constitution framed in terms of the id, the ego, and the super-ego. Some preliminary criticism of the reductive method employed by psycho-analysis is also offered. Whilst the approach of the writer is essentially psycho-analytical, it is hoped that the attempted evaluation will not be without relevance from the standpoint of the philosophy of science.

2 *Reductive Method*

At the outset it is perhaps worth drawing attention to the anomaly involved in any attempt to assess the validity of psycho-analytical conceptions from a philosophical standpoint. Historically, it has been the accepted function of philosophy to offer an explanation of the nature and meaning of the Universe in ultimate terms; and it has thus fallen within its province to evaluate and relate to one another the conclusions of all the other intellectual disciplines, among which psycho-analysis has latterly assumed a place. Yet, whilst the traditional claim of philosophy to the status of an ultimate evaluatory discipline can hardly be said to have been abandoned despite recent changes of outlook engendered by the growth of the scientific spirit, psycho-analysis has lodged a rival claim to provide an explanation of the motivation of all human activities, including that represented by philosophy itself. Thus the characteristic psycho-analytical approach to philosophy was succinctly described by Freud when he wrote, ' We venture . . . to transform *metaphysics* into *metapsychology* '.[1]

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[1] S. Freud, *The Psychopathology of Everyday Life*, London, 1914, p. 309

From the classic psycho-analytical standpoint, of course, it is not only metaphysics that becomes transformed into metapsychology, but also religion, morals, art, and all such cultural institutions and achievements as are generally considered to embody the 'higher' values—such values being interpreted psycho-analytically as essentially *derived* values representing sublimations of primitive libidinal values, and in particular those determined by the aims of the erotogenic zones. Thus, according to Wisdom,[1] Berkeley's immaterialist philosophy was largely the product of a conflict attending this philosopher's anal preoccupation with faeces. Similarly, religion and morals have been interpreted by Freud as, in the main, sublimated expressions of genital aims subjected to the conflicts involved in the Oedipus situation. Reductive explanations of this type possess the great disadvantage of simply explaining away what they seek to explain. Whatever light they may throw upon the basic motivations of cultural activities, they make a minimum contribution to an understanding of the values involved in these activities themselves—as is perhaps most conveniently illustrated within the artistic field. Thus, quite apart from their failure to explain why the motivations of an artist should lead him to become an artist rather than, e.g. a philosopher, and what determines the degree of an artist's greatness, such explanations, as Herbert Read has pointed out,[2] completely fail to explain what determines the specifically aesthetic value of a work of art, and characteristically provide no clue to any *scale* of aesthetic values.

Here it becomes relevant to recall that, whilst Freud regarded all cultural phenomena as involving the sublimation or desexualisation of libidinal impulses of instinctive origin, it was specifically in terms of the Oedipus situation mediated by the super-ego that he sought an explanation for both religion and morals. We thus find two distinct explanatory principles being applied by Freud to the same phenomena—one conceived in terms of a psychology of impulse (the libido-theory), and the other in terms of a psychology of object-relations (the Oedipus situation). Both of these explanatory principles have become accepted features of classic psycho-analytical theory ; but the question which now arises is how far they can be consistently combined. At this point, therefore, it would appear that, however

[1] J. O. Wisdom, *The Unconscious Origin of Berkeley's Philosophy*, London, 1953, pp. 145-149

[2] H. Read, 'Psycho-Analysis and the Problem of Aesthetic Value', *International Journal of Psycho-Analysis*, 1951, 32, Part 2, pp. 73-82

justified may be the claim of psycho-analysis to explain the basic motivations which give rise to philosophy, there is at least equal justification for expecting psycho-analysts to be willing to submit their concepts for evaluation by the philosophy of science.

3 *The Libido Theory and the Theory of Instincts*

In the opinion of the writer, the two explanatory principles to which reference has just been made are not really consistent, and the inconsistency can only be satisfactorily overcome if the psychology of impulse is abandoned in favour of an explicit psychology of object-relations. Such a step would, of course, involve a revision of Freud's libido-theory and of all aspects of psycho-analytical theory which depend upon it.

The libido-theory as conceived by Freud is essentially hedonistic ; for he described libido as primarily pleasure-seeking. In view of the supreme importance which he attaches to the Oedipus situation alone it would, of course, be quite untrue to say that he is oblivious of the importance of object-relations. At the same time, it is implicit in the libido-theory that the object only becomes significant in so far as it is found to provide a means of forwarding the pleasure-seeking aim. In conformity with this conception, Freud described the first stage in the process of libido-development as 'auto-erotic' ; and he considered that it was only after passing through an intermediate 'narcissistic' stage of self-love that the individual finally reached the 'allo-erotic' stage of object-love. The essential process involved in this transition was also described by Freud in another reference as the substitution of the reality principle for the pleasure principle as a determinant of behaviour. It is a further feature of the libido theory that pleasure-seeking is conceived as the expression of a need to relieve bodily tension accumulating in the erotogenic zones as the result of physiological changes, and thus to restore the equilibrium disturbed by these changes. This conception, it will be noted, involves a mixing of psychological and physiological principles of explanation, which is methodologically questionable. To continue, however—the restoration of equilibrium is regarded as being effected through the discharge of impulses which express themselves in behaviour ; and it is thus that the psychology of behaviour arising out of the libido-theory is essentially a psychology of impulse. It was on the basis of this psychology of impulse that Freud developed his dualistic theory of instincts which, in its final version, assumed the form of a dualism of 'the life instincts' and 'the death instincts'. Such a classification of instincts differs from most classifications in that it is not conceived in terms of outward behaviour, but in terms of states (' life ' and ' death ') representing the goals of inner strivings ; but this is, of course, in complete conformity with the hedonistic nature of Freud's libido-theory.

Psychological hedonism has for long appeared to the writer to provide an unsatisfactory basis for psycho-analytical theory because it relegates object-relationships to a secondary place. Indeed, it involves the implicit assumption that man is not by nature a social animal (φύσει πολιτικὸν ζῷον) as Aristotle described him,[1] and that, accordingly, social behaviour is an acquired characteristic. This assumption would appear to be in complete contradiction of the facts of animal psychology. For throughout the animal world social (viz. object-seeking) behaviour is in general exhibited from birth ; and recent studies of the phenomenon of ' imprinting ' in young animals would seem to imply an inherent orientation towards objects. Further, it would appear that the instinctive behaviour of animals, in view of its high degree of specificity and adaptation to environmental conditions, is determined by the reality principle rather than by the pleasure principle, however limited the appreciation of reality involved may be ; and indeed it would seem on this account actually to involve a *hereditarily transmitted* internalisation of outer reality. The formation of the super-ego in the human child may be regarded as an analogous, but *acquired*, internalisation of outer reality, and thus in itself quite a realistic procedure. Be this as it may, it seems a reasonable assumption that an analogy may legitimately be drawn between the behaviour of animals and the basic behaviour of human beings ; and, on this assumption alone, it seems justifiable to infer both that man is by nature object-seeking rather than pleasure-seeking, and that his basic behaviour is determined, as in the case of animals, by the reality principle rather than by the pleasure principle. Such a conclusion by no means involves an abandonment of the concept of the pleasure principle, but only a re-interpretation of it in the sense that it represents a *deterioration* of behaviour involving failure of adaptation to conditions in outer reality. It must be recognised, of course, that the instinctive behaviour of animals may become completely unrealistic in face of a change in the environmental conditions to which they have become adapted ; and similarly human behaviour characteristically becomes determined by the pleasure principle instead of by the reality principle in proportion as environmental conditions become too difficult for the individual concerned, as for example in psychopathological cases. Similarly, whilst behaviour influenced by the super-ego as an internalised parent-figure may be quite realistic in the child, it may become completely unrealistic under the altered conditions of adult life.

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[1] Aristotle, *Politics* I, 2, 9

In the light of such considerations, it would appear that psycho-analytical thinking has been in no small measure obscured owing to the fact that attention has been focused almost exclusively upon human behaviour and little, if any, account has been taken of the behaviour of animals. Admittedly, human behaviour differs from animal behaviour in that it follows a less rigidly specific pattern and is therefore capable of a greater degree of modification, whether realistic and adaptive or pleasure-seeking ; but it is difficult to believe that the basic instinctive behaviour of human beings differs fundamentally from the instinctive behaviour of animals.

As regards Freud's theory of instincts itself, it seems to the writer that, whilst it is meaningful to describe basic behaviour as ' instinctive ', the conception of separate ' instincts ' represents no more than a hypostatisation of trends manifesting themselves in instinctive behaviour. In this connection it is not without significance that ' libido ' is customarily referred to as ' *the* libido ' in psycho-analytical literature. Even if a similar usage is not applied to ' aggression ', there still remains a tendency among psycho-analytical writers to refer to both libido and aggression in such a way as to imply that they exist apart from the structures which they energise. More obvious perhaps is the tendency to treat the ' part instincts ' as if they were separate entities ; and here we have an example of the atomism which from the first constituted one current in Freud's thought. Such atomism is implicit in Freud's view that the adult sexual attitude is the product of a process of development whereby the various part instincts become organised under the supremacy of the genital impulse.[1] It is to be noted, however, that physical development is characterised, not by the gradual integration of a number of separately functioning organs, but by the gradual differentiation of a unified functioning structure ; and it would seem reasonable to assume that mental development is characterised by a similar process.

4 *The Id, the Ego, and the Super-ego*

At this point it may occur to the reader that at any rate Freud's conception of the differentiation of the ego out of the id is not an atomistic conception. This is certainly true ; but the concepts of the ego and the id involve further consideration. The id is conceived by Freud as the source of instinctive impulses ; and the impression conveyed by his description is that it consists, not of organised instinctive tendencies, but of inchoate impulses seeking discharge. It is the human psyche, of course, that Freud is considering. But it is difficult to believe that man differs fundamentally from the animal world where the more primitive aspects of his mentality are concerned ; and Freud's description of the id as the source of instinctive impulses seems singularly out of keeping with the instinctive endowment of animals, which, as we have seen, is highly specific and highly orientated towards outer reality. According to Freud, the id is indifferent to outer reality, and the adaptation of impulses to outer reality only becomes possible through the differentiation of the ego from the surface of the id.[1] The ego is, of course, conceived by Freud as a structure ; but the id is described in a manner which implies that it is essentially structureless and is merely a reservoir of instinctive energy. The function ascribed to the ego is that of selecting and regulating id-impulses in such a manner as to render behaviour adapted to outer conditions. It thus performs a function which in the case of animals is performed by the instinctive endowment itself. From this point of view, the concept of a separate ego might appear to be superfluous. It is impossible, however, to dismiss Freud's distinction between the ego and the id so lightly—its justification being that it arises out of an attempt to explain mental conflict, which is such a distinctive feature of human psychology. According to Freud, mental conflict is essentially a conflict between the ego and id-impulses, albeit this conflict is regarded as mainly due to the pressure exerted by the super-ego upon the ego. Freud's conception of mental conflict may, therefore, be described in general terms as a conflict between mental structure (the ego) and mental energy (id-impulse). Stated in this form, the conception presents somewhat of an anomaly ; for it is difficult to see how a structure can participate in conflict unless it is endowed with energy, or how it can be in conflict with energy unless this energy is embodied in a structure. It is owing to such considerations that the writer has been led to formulate the concept of 'dynamic structure' ;[2] and, once the concept of dynamic structure has been adopted, it becomes

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[1] S. Freud, *Three Contributions to the Theory of Sex*, New York, 1925, p. 58

[1] S. Freud, *The Ego and the Id*, London, 1927, pp. 28-30

[2] W. R. D. Fairbairn, *Psychoanalytic Studies of the Personality*, London, 1952, pp. 148-150

impossible to remain content with Freud's formulations of 'the id' and 'the ego'.

Another feature of Freud's description of the conflict between the ego and the id is that it reveals a subtle, and doubtless unwitting, change of ground, which may be described, in terms borrowed from epistemology, as a transition from the standpoint of Empiricism to that of Rationalism. It is essentially from an empirical standpoint that Freud described the origin of the ego; for, according to his description, the ego arises as a means of ensuring the satisfaction of pleasure-seeking id-impulses by *regulating* them in such a manner as to conform to the conditions of satisfaction imposed by outer reality. When, however, he introduced the concept of the super-ego as the instigator of repression, the function of the ego became one of *controlling* id-impulses in such a manner as to lead to their repression, and thus to preclude their satisfaction on an extensive scale—a conception conforming to the rationalist standpoint. This change of standpoint is one which it would have been difficult for Freud to avoid in view of the basic hedonism of his libido-theory; for, in introducing the concept of the super-ego (to which he ascribed the functions of an unconscious conscience), he was entering upon a field involving consideration of the moral aspect of behaviour. This is an aspect of behaviour which has proved a stumbling-block for hedonism ever since the days of the Epicureans; but the inherent dilemma of hedonism finds its best illustration in John Stuart Mill's attempt to effect a passage from psychological to philosophical hedonism.[1] Adopting as his starting-point the principle that all behaviour is determined by a search for maximum pleasure, he found himself faced with the problem of defining the nature of the specific pleasure which it is the aim of moral behaviour to achieve—the pleasure which 'ought' to be sought. It was, of course, in the principle of the greatest happiness of the greatest number that he found his solution of the problem; but this was a solution that really involved an abandonment of psychological hedonism, which concerns only the pleasure of the separate individual. What is here significant is that it was when confronted with the phenomena of social life, viz. object-relationships, that Mill's hedonism proved inadequate as an explanatory principle. The same may be said of Freud's hedonism; for, just as it was considerations of 'duty' which led Mill to introduce the non-hedonistic principle of the greatest happiness of the greatest number, so was it considerations of 'guilt' that led Freud to introduce the concept of the super-ego as a determinant of behaviour. The guilt in question is, of course, the guilt engendered by the Oedipus situation—an essentially social situation. It was thus the paradox of Freud's hedonism, as it was previously the paradox of Mill's, that, when it came to the consideration of social phenomena, explanations in terms of pleasure-seeking had to be replaced by explanations in terms of object-seeking. At the same time, behaviour determined by the super-ego is characterised, not simply by object-seeking, but also by repression, which may be regarded as the very antithesis of pleasure-seeking. Repression is, of course, a process involving the direction of aggression inwards; and, according to Freud, the aggression in question is directed against libidinal id-impulses, and represents a manifestation of the death instincts. However, there can be no doubt that, in the setting of the Oedipus situation, this aggression is directed against objects before it takes a self-destructive turn. It is such considerations that have led the writer to formulate the view that repression is a process directed, not against id-impulses, but primarily against internalised objects, and secondarily against parts of the ego which cathect the internalised objects in question.[1] This view incidentally involves the principle that aggression no less than libido is primarily oriented towards objects.

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[1] J. S. Mill, *Utilitarianism*, chaps. 3 and 4

According to Freud, of course, aggression is a manifestation of the death instincts, and represents an externalisation of death impulses.[2] There are, however, many analysts who prefer to regard aggression itself as the counterpart of libido, and interpret the death-seeking tendency as a manifestation of inturned aggression. This conception seems more in accord with psychological facts than that of the death instincts; for it is beyond question that, in its original and presumably most 'instinctive' form, aggression manifests itself characteristically in an outgoing direction. Actually, the conception of the death instincts is a *philosophical* rather than a psychological conception. Yet it is in complete conformity with the hedonism of Freud's libido theory; for (1) it is formulated (as already noted) in terms of a state (death) representing the goal of inner strivings, and (2) the state of death in question is conceived as representing the final establishment of an equilibrium which is partially and temporarily established during life by the discharge of libidinal tension.[1]

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[1] W. R. D. Fairbairn, *Psychoanalytic Studies of the Personality*, London, 1952, pp. 89–90

[2] S. Freud, *Beyond the Pleasure Principle*, London, 1922, pp. 68–69

As regards Freud's theory of instincts in general, it would seem desirable, with a view to avoiding all risk of hypostatisation, to regard both libido and aggression as basic '*factors*' in behaviour, rather than as 'instincts'; and on a previous occasion the writer has described them respectively as 'the libidinal factor' and 'the antilibidinal factor'.[2] The description of aggression as 'the antilibidinal factor' is, it will be noted, in complete conformity with the phenomena of resistance, upon Freud's recognition of which the whole theory of psychoanalysis is based; for resistance is nothing if not antilibidinal. The aggression involved in resistance is, of course, not only directed inwards in its active expression, but also manifested passively in outward behaviour towards the analyst; and one of the advantages of the term 'antilibidinal factor' is that it covers both outwardly and inwardly directed aggression.

It may here be recalled that, although Freud conceived repression as a function of the ego, he regarded this function as being only assumed by the ego at the instance of pressure exerted upon it by the super-ego[3]—the super-ego thus becoming the effective agent of the antilibidinal factor. That Freud should have thought it necessary to invoke the agency of the super-ego in order to account for repression is a highly significant fact; for it shows that he found it impossible to explain repression in the absence of an endopsychic structure capable of setting this process in motion; and, since the repressive function of the ego is extremely active, it follows that the super-ego is likewise an extremely active structure. Both the ego and the super-ego are, therefore, seen to constitute endopsychic structures which are at least functionally dynamic; and thus, in his description of these structures, we find Freud approaching the concept of dynamic structure. According to his conception of the mental constitution, however, the energy involved in the activity of both the ego and the super-ego is derived ultimately from the id as the source of all instinctive energy. Yet, if the analogy between human and animal psychology is valid, the id must be regarded not simply as a source of instinctive energy, but an inherently dynamic *structure*; for the instinctive behaviour of animals is such as to imply that their instinctive endowment is highly structuralised. This being so, it would seem more satisfactory to regard the id, the ego, and the super-ego as all representing dynamic structures in their own right.

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[1] S. Freud, *Beyond the Pleasure Principle*, London, 1922, p. 71

[2] W. R. D. Fairbairn, 'Theoretical and Experimental Aspects of Psycho-Analysis', *British Journal of Medical Psychology*, 1952, **25**, Parts 2 and 3, 122-127

[3] S. Freud, *The Ego and the Id*, London, 1927, p. 75

Such a conception would necessarily involve a drastic revision of Freud's theory of the mental constitution. For, if we adopt the view that both the ego and the id are inherently dynamic structures, the id will inevitably assume the form of an ego-structure comparable to the ego itself. At this point the concept of the super-ego is seen to present a difficulty. For, since the super-ego was conceived by Freud as essentially an internalised object, it would seem out of balance if, instead of consisting of a source of energy, an ego-structure, and an internalised object, the mental constitution turned out to consist of a single internalised object in association with two ego-structures. Here, however, it will be recalled that there are passages in *The Ego and Id* in which Freud speaks of the super-ego as if it were almost part of the ego.[1] It would, therefore, seem in the interests of consistency if the super-ego were regarded as an ego-structure no less than the id and the ego. In actual fact, this is substantially the standpoint which the present writer adopted[2] when he formulated the view that, during the course of development, an original unitary ego becomes split into three separate ego-structures, viz. ' the central ego ', ' the libidinal ego ' and ' the antilibidinal ego ' (corresponding respectively to Freud's ' ego ', ' id ' and ' super-ego ').

Consideration of such a theory immediately raises the question what place is to be found in it for that important aspect of the super-ego which led Freud to regard it as primarily an internalised object. Obviously the concept of internalised objects is one which no psycho-analytical theory of the mental constitution can afford to ignore—and not least because Melanie Klein's systematic development of the concept has made it the growing-point of psycho-analytical theory in recent years. One of the distinctive features of Melanie Klein's contribution is that, whereas Freud only described a single internalised object (the super-ego), she has recognised the existence of a multiplicity of internal objects, both good and bad. According to her view, it is out of this multiplicity of internal objects that, in proportion as development proceeds favourably, the super-ego is elaborated.[1] Although differing from Melanie Klein's conception of the resulting super-ego, the writer has adapted her conception of the multiplicity of internal objects to his threefold conception of ego-structures by assigning to each of the ego-structures an appropriate internal object. The endopsychic situation which arises in the course of development is thus conceived as one consisting of three groupings of relationships as follows : (1) ' a central ego ' cathecting ' an ideal object ', (2) ' a libidinal ego ' cathecting ' an exciting object ' and (3) ' an antilibidinal ego ' cathecting ' a rejecting object '.[2] The active process to which the establishment of this endopsychic situation is attributed is one conceived, from one point of view in terms of ' splitting ', and from another point of view in terms of ' repression '. The details of the process may be briefly summarised in the following account :

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[1] S. Freud, *The Ego and the Id*, London, 1927, p. 44

[2] W. R. D. Fairbairn, *Psychoanalytic Studies of the Personality*, London, 1952, p. 105 ; and ' Observations on the Nature of Hysterical States ', *British Journal of Medical Psychology*, 1954, 27, Part 3, 108

> The first defence of the original unitary ego against a relationship which is not wholly satisfying is internalisation of the object. The next defensive reaction of the ego is to split off from the internalised object two disturbing elements, viz. the exciting element and the rejecting element. The splitting process, which is also a repressing process, constitutes these two elements into separate, repressed objects—the exciting object and the rejecting object. The remaining nucleus of the original object, being ego-syntonic, remains cathected by the ego and becomes the ideal object. Since, however, the two repressed objects retain an ego-cathexis while in process of repression, their repression involves a splitting-off, from the substance of the ego, of two portions representing their cathexis ; and this phenomenon resolves itself into a repression of two parts of the ego, the libidinal ego and the antilibidinal ego, by the central ego. Since the antilibidinal ego has aims inherently hostile to those of the libidinal ego, it implements this hostility by subjecting the latter to a sustained aggressive and persecutory attack, which supports the direct repression exercised against it by the central ego and which may be appropriately described as indirect repression.[3]

A certain general correspondence will be observed between the conception of the endopsychic situation described above and Freud's threefold conception of the mental constitution ; but, in the former, the id is replaced by the combination 'libidinal ego/exciting object', the ego by the combination 'central ego/ideal object', and the super-ego largely by the combination 'antilibidinal ego/rejecting object'. Such a conception appears to have certain advantages over Freud's: (1) It explicitly embodies the principles of dynamic structure and object-relations in a manner which Freud's does not. (2) It resolves the difficulty which confronted Freud when he raised the questions (*a*) why the super-ego is unconscious, and (*b*) whether this instigator of repression is not itself repressed[1]—questions to which he never provided a satisfactory answer; for the antilibidinal ego and its associated rejecting object (which in their conjunction largely corresponds to Freud's super-ego) are conceived as repressed by the central ego; (3) the conjunction of the antilibidinal ego and the rejecting object resolves the anomaly involved in Freud's description of the super-ego as both an internalised object and a part of the ego. (4) The concept of the ideal object as an internal object cathected by the central ego and independent of the combination 'anti-libidinal ego/rejecting object' makes it possible to overcome the difficulty presented by Freud's description of the super-ego as simultaneously playing the discordant rôles of ego-ideal and internal persecutor. (5) The splitting of the original internal object into the exciting object, the ideal object and the rejecting object makes it possible to avoid the anomaly created by Freud's description of the super-ego as at once 'a deposit left by the earliest object-choices of the id' and 'an energetic reaction-formation against those choices'.[2]

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[1] M. Klein, *Contributions to Psycho-Analysis*, London, 1948, pp. 282 and 388

[2] W. R. D. Fairbairn, ' Observations on the Nature of Hysterical States ', *British Journal of Medical Psychology*, 1954, 27, Part 3, 108

[3] Ibid., 107-109

The space devoted to a description of views which the writer has come to adopt would seem to demand some apology; but, since these views were adopted with a view to overcoming what appears to be certain limitations in the conceptual system originated by Freud and perpetuated in current psycho-analytical theory, such a description appeared to provide the best means of drawing attention to these limitations, and in particular to the inconsistencies involved in the classic concept of the super-ego.

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[1] S. Freud, *The Ego and the Id*, London, 1927, p. 75

[2] Ibid. p. 44

FREUD AND HOMEOSTASIS

Nigel Walker

1 *Freudian Homeostasis*

Freud's use of the concept of homeostasis, in the hypothesis that ' the nervous system is an apparatus having the function of abolishing stimuli ',[1] is of great interest, not only because it represents the pessimistic core of his materialism but also because it appears to anticipate by a quarter of a century the notions of cybernetics. Although it is usually overlooked in psycho-analysts' expositions of psycho-analysis, it is the unifying concept that links together the wish-fulfilment explanation of dreams,[2] the defence-mechanisms of the ego[3] and the repetition compulsion.[4] It also led Freud by a fallacious argument, to the notion of the death-instinct.[5]

Dreams, according to Freud, were the efforts of the sleeping ' psychic apparatus ' to cancel or compensate for stimuli which threatened to awake it. If the thirsty sleeper did not dream of drinking his thirst would awaken him : therefore he dreams of drinking.[6] Later, Freud explained the various ' defence mechanisms ' by which the ego defends itself against the demands of the instincts (repression, sublimation, etc.) as the efforts of the central nervous system to escape these internal stimuli : being unable to escape by flight, as it would from external stimuli, it has resort to these means of abolishing, or at least reducing their impact.[7] This was twenty years before W. B. Cannon[8] invented the word ' homeostasis '[9] : but the notion is clearly developed in Freud's mind.[10]

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[1] S. Freud, ' Instincts and their Vicissitudes ', *Collected Papers*, 1915, Vol. IV

[2] S. Freud, *The Interpretation of Dreams*, 1900

[3] S. Freud, ' Instincts and their Vicissitudes ', as cited

[4] S. Freud, *Beyond the Pleasure Principle*, 1920

[5] Freud, op cit.

[6] S. Freud, *The Interpretation of Dreams*, 1900

[7] S. Freud, ' Instincts and their Vicissitudes ', as cited

[8] W. B. Cannon, *The Wisdom of the Body*, 1932

[9] Cannon's ugly neologism was presumably devised in ignorance of the much more elegant and descriptive name applied to the same thing by Alcmaeon of Crotona, a predecessor of Hippocrates. He called it ' isonomy '.

[10] He admitted that he owed some of his ideas on this subject to Fechner's ' primary trend towards inertia '.

After the first world war Freud modified the notion slightly. He had encountered dreams that could not be explained as wish-fulfilments because they revived the memory of unpleasant situations (as the dreams of soldiers do). He had also, he said, observed that in real life there were people who tended to get into the same sort of unpleasant situation time after time—for example, 'men with whom every friendship ends in the friend's treachery'[1]; he must have been thinking of his relationship with Fliess, Adler, and Jung. These observations forced him to postulate a 'repetition-compulsion', impelling the organism to repeat earlier experiences, whether pleasant or not. This was twenty years before the automatic gun-aimers, bomb-sights, or aircraft pilots of the second world war, but Freud was on the point of observing that the central nervous system, in addition to the innately homeostatic operations of the sleep and defence mechanisms, could actually be 'set', deliberately or accidentally, to return homeostatically to states acquired during its lifetime. Had he done so, he would have been within one step of a most fruitful explanation of memory.

But his pessimism side-tracked him into the notion of the death-instinct. He asked himself: 'What is the state which the organism is always trying to restore?'; and answered: 'The earliest state of all—non-existence, death.'[2] The death-instinct is thus on a different logical footing from the wish-fulfilment function of dreams, the defence-mechanisms, and the repetition-compulsion. Freud treated these as observed phenomena and used homeostasis as a unifying explanation for them. The death-instinct, however, is deduced from the repetition-compulsion, seen as a homeostatic phenomenon, by the fallacious argument which I have outlined. (Most of the fallacies are obvious, but I shall return to one of them later.)

This does not necessarily discredit the notion. Freud might, for example, have tried to establish it by appealing to observation. But he does not seem to do this, but as Flugel[3] has said he regarded it, unlike the other instincts, as something whose operation could not be observed. He did not make nearly so much use of it as is popularly supposed, or as is done by Kleinian psycho-analysts. For instance, he does not use it to explain suicide or accident-proneness (although here, if anywhere, is a use for it) ; these are merely regarded as the effects of aggression turned inward. Indeed, when we look for the death-instinct in Freud's last work,[1] we find that it has been watered down into a special form of the instinct of aggression.

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[1] S. Freud, *Beyond the Pleasure Principle*, 1920

[2] S. Freud, op. cit.

[3] J. C. Flugel, 'The Death Instinct, Homeostasis and Allied Concepts', 1949 (republished in *Studies in Feeling and Desire*, 1955).

But even without the death-instinct, Freud's conclusions are pessimistic enough. Even if the goal of the central nervous system is not death, but merely ' the abolition of stimuli ', this is something which, by the values at least of Western civilisation, is not much better. We are not offended when we are told how the rest of the body operates homeostatically to maintain its temperature, salinity, and so forth, for it is possible to regard this as an excellent arrangement for allowing us to get on with the work that really matters, whether it is the creation of art, the spreading of a gospel, the betterment of human life, or some less common but equally highbrow task. But when we are told that our central nervous system is doing all this simply because its slogan is ' anything for a quiet life ', we are outraged and discouraged. Can this be so ? Is this the verdict of modern science ?

2 *The Concept of Homeostasis*

To give a clear answer, we must see what is involved in the notion of ' homeostasis '. There seem to be four notions—' end-states ', ' mechanism ', ' system ', and ' point of breakdown '. A homeostatic system is one which through the operation of a mechanism restores a certain end-state unless and until the point of breakdown is reached. Water in a gold-fish bowl is a homeostatic system because after tilting its surface returns again to the horizontal. The end-state is ' horizontal surface ', the mechanism is ' gravity acting on an enclosed fluid ', the system is ' an enclosed fluid ' and the point of breakdown is reached when the bowl is tilted too far.

Points of Breakdown

All homeostatic systems can, in theory at least, reach a point at which the mechanism of homeostasis ceases to operate in such a way as to restore the end-state. Even if the goldfish bowl were a stoppered flask, and so proof against a tilt of any degree, its homeostasis would still break down in certain circumstances, such as a hard blow or a certain amount of heat.

Freud recognised points of breakdown in the kind of homeostasis which he described. Sleepers can be wakened if the stimulus is strong enough. The 'defence-mechanisms' can be overwhelmed by the 'demands of the id', with a result which he called psychosis. Presumably he would also have recognised breakdowns due to a blow of a certain strength (concussion) or to a rise in temperature (delirium).

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[1] S. Freud, *An Outline of Psychoanalysis*, 1940

Mechanisms

The mechanism of homeostasis in the gold-fish bowl is gravity acting on an enclosed fluid. What, in Freud's view, was the mechanism of homeostasis in the central nervous system? He knew a good deal about the electrical properties of nerve tissue (although not so much about the chemical processes that gave it these properties). He was a cerebral anatomist of some distinction, and tried at one stage to describe functional disorders of the central nervous system in neurological terms, although he never published the draft.[1] It is interesting to speculate how far he would have persevered if he had had at his disposal the concepts of cybernetics, such as 'negative feed-back', 'digital functioning' and 'delay line storage'. As it was, he had to resort to the concepts of phenomenological psychology, and to use them as working parts in his picture of the 'psychic apparatus'. He was only slightly dissatisfied with this, because in his view the emotions, memories, fantasies, and impulses of introspectible mental life were aspects of the discharge, transfer, or other vicissitudes of electrical energy in the cerebral neurones, much as the shape of a visible object is regarded by science as a macroscopic aspect of the microscopic behaviour of its molecules. This could of course have misled him into assuming that the whole mental mechanism interacted according to the laws that appeared to govern the introspectible parts. But he was too good an observer for that, and was forced to ascribe different laws to the 'unconscious'. The fact that he was able to recognise the operation of a homeostatic principle a generation before modern neurologists and cyberneticists (although he may, as we shall see, have overstated his case) suggests that he was not completely misled by his phenomenological mechanism.

End-States

The end-state of a homeostatic system is the state in which it exhibits the least activity (or, to be as precise as possible, the fewest changes of values, since the end-state can consist of what Wisdom calls ' steady motion ',[1] as in the case of a governed steam-engine). The end-state of the water in the gold-fish bowl is the state in which its surface is horizontal. The end-state may have to be inferred by a sort of extrapolation in cases where circumstances make it unobservable : poets complain of the ' restless sea ' because they recognise the essentially homeostatic nature of fluids in containers but are unable to observe the end-state in this particular instance. An electric light system, on the other hand, is not homeostatic because when switched off (or on) it exhibits no change of values tending towards an end-state ; it is either off or on, ' and there's an end on't '.

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[1] S. Freud, *Project for a Scientific Psychology*, ? 1895

Homeostatic systems

As Ashby [2] points out, homeostasis is a property not of a substance but of a system. It may be true to say that all living matter is homeostatic ; but what we mean is that all living matter is found in systems exhibiting homeostasis of various kinds and degrees. But where does a system begin and end ? In the case of the gold-fish bowl and its water, both of these are obviously part of a system ; but what about the earth which supplies the gravity to operate the mechanism ? Again, homeostatic thermal systems, such as the skin of birds and mammals, usually depend on the air to conduct away or to insulate heat, but the air is not usually regarded as part of the system. Some but not all of the mechanism must be regarded as within the system. On the other hand, we have no doubt that the end-state must lie within it. If a man retires after making a fortune we are not content to accept the level of his bank-balance as the end-state that reduces his activity to a minimum ; we prefer to look within the system for some such end-state as satisfied ambition, security, or sense of superiority. Without trying to define a homeostatic system, we can say that its states of least activity must coincide with a state that can best be described in terms of the system itself—that is, with the minimum of reference to things outside the system.

Unfortunately, the science of physiology subdivided the human body and other highly developed organisms into systems (such as the vascular, digestive, or nervous systems) before their homeostatic properties were recognised. This subdivision was therefore based on other considerations ; for example, on the similarity of cells in one ' system ' and their difference from the cells of others. Such systems are therefore not necessarily homeostatic systems in the sense that their end-states are describable in terms of the system. But Freud, whose attention was concentrated on the central nervous system, assumed that it was a system in the homeostatic as well as the histological sense, and that its end-state must lie within it.

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[1] J. O. Wisdom, ' The Hypothesis of Cybernetics ', this *Journal*, 1951, 2

[2] W. R. Ashby, *Design for a Brain*, 1952

In many ways, of course, the central nervous system is part of the mechanism of wider homeostatic systems. For example, it has to operate in order to allow the mechanism of ingestion to play its part in maintaining the salinity of the blood and other end-states (except in infancy, illness, and old age, when the organism is fed by others). But as we have seen this does not mean that the central nervous system is necessarily part of those other systems, nor does it exclude the possibility that there is an end-state that is readily definable in terms of the central nervous system itself, or that it is its homeostatic behaviour towards this end-state that enables it to play its part in the other systems of the body, homeostatic or otherwise. That this is exactly what Freud had in mind is clear from a passage where he describes how the body's need for water provides the central nervous system with stimuli which it tries to abolish.[1] He is thus asserting that it plays a part in the complex of homeostatic systems of the body in virtue of the fact that its states of least activity coincide with a state of ' least stimulation ', which is readily definable in terms of the central nervous system itself.

3 *Verification of Freudian Homeostasis*

Having thus reduced Freud's hypothesis to fairly precise terms, we can see not only its simplicity but also its intellectual appeal. But when we turn to science for confirmation or disproof, we are struck by the lack of conclusive observations.

The Observations of Psychology

Most of the literature of psychology on this subject[2] consists of controversial interpretations of the uncontrolled natural history of every-day life, and the few controlled experiments seem either to have borne on the operation of homeostasis in one or two specialised activities (such as problem-solving or perception), or to have been inconclusive searches for negative instances. This is not altogether due to the laziness or methodological incompetence of psychologists, for it is hard to see how either the natural history method or experiments could be conclusive. For example, Hebb[1] seeks to establish a negative instance by pointing out that infants prefer a well-lit room and adult company to solitude and the dark. But one does not have to be a Freudian or a parent to realise that this may be because the stimulation of their own fearful imaginings in the solitary darkness is more intense than the stimulation of reassuring company. There is of course an equal inconclusiveness about the efforts of Freudians to explain the activities of Everest-climbers or night-club habitués as directed towards the reduction of stimuli, for this interpretation has to introduce the assumption of unconscious stimuli which are more intense or frequent than the stimuli of cold and exhaustion, or of women and noise.[2] Both the Freudian assumption and Hebb's negative instance are matters of interpretation. I shall suggest later that there may be a reason for the inconclusiveness of this dispute ; but for the moment I want to consider the relevance of neurological observations.

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[1] S. Freud, ' Instincts and their Vicissitudes ', as cited

[2] For a review, see J. C. Flugel's ' The Death-Instinct, Homeostasis and Allied Concepts ', 1949, as cited

The Observation of Neurology

At first the development of encephalography and the discovery of the alpha-rhythms seemed to promise confirmation. It was assumed—for example, by Young[3]—that the alpha-rhythm is an end-state and that it coincides with absence of stimulation. But these are both doubtful assumptions. It now seems more likely that the alpha-rhythm is not so much a general state of the brain as a local activity with a special function, which, Grey Walter suggests,[4] may play a part in visual perception analogous to that of the scanning mechanism in a cathode-ray oscilloscope when linked to a particular kind of circuit. Nor do the observations support the picture of a mechanism which is active until it has restored the alpha-rhythm. What they describe is the interruption or reduction of the rhythm when the unstimulated subject is stimulated (particularly by a visual stimulus), and the restoration of it *after and not before* the stimulus is removed. I can find no descriptions in which the alpha-rhythm begins to be restored before the removal of the external stimulus. In other words, the alpha-rhythm appears to be a phenomenon more analogous to the light of an electric lamp, which is switched on and off by something outside the system, than to the thermostat, which operates so as to switch off or reduce its own current. If so, the alpha-rhythm is not a homeostatic phenomenon, at least of the kind we are seeking.

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[1] D. O. Hebb, *The Organisation of Human Behaviour*, 1949

[2] Freudians are here faced with a dilemma. Either they must suppose that the ego avoids unconscious stimuli before they occur (a supposition that re-admits teleology) ; or they must explain why the stimuli do occur but are not felt by the ego. Freud's concept of ' the unconscious part of the ego ' (*New Introductory Lectures on Psycho-Analysis*, 1933) is designed to meet this difficulty, although he did not see it clearly.

[3] J. Z. Young, *Doubt and Certainty in Science*, 1951

[4] Hill and Parr (eds.), *Electroencephalography*, 1950

The same difficulty seems to me to arise if, instead of claiming that the alpha-rhythm alone is the end-state, we try to argue that the less complex the variety of different rhythms which are being recorded at any moment the nearer the brain is to its end-state ; for the complexity, like the alpha-rhythm and the electric light, seems to depend on factors outside the control of the system.

Finally, it is altogether too easy to produce such phenomena as alpha-rhythms or simple electro-encephalograms. All that seems to be required of a normal subject is that he should be ' relaxed . . . with his eyes closed, comfortably lying on a couch in a darkened room protected from the stimuli of a changing environment, his anxieties and apprehensions allayed '.[1] But according to Freud the state which the central nervous system is trying to achieve is so hard to attain that it will be compelled to go through the most lengthy evolutions, which may involve a career in banking or the writing of the ' Divina Commedia '. The Nirvana of Freudian man is not to be attained in the electro-encephalographer's laboratory.

It is indeed very difficult to see what sort of experimental observation, by electro-encephalography or otherwise, would confirm or refute the Freudian hypothesis. Experiments on the intact organism seem at most to establish what we know already, that its activities are related homeostatically to a number of end-states describable in terms of the chemistry, temperature, and so forth of the body. Experiments on the de-afferented central nervous system might conceivably be relevant if we could artificially provide it with measured amounts of ' stimulation ' and measure the consequent activity in terms of the system itself, but so far as I know we are a long way from this achievement. The most we can say is that it is possible to conceive of Freud's hypothesis being expressed in the language of neurology.

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[1] Hill and Parr, op. cit.

The Analogy of Cybernetics

If observation does not help, what about analogy? Does the undoubted similarity between human behaviour and the way in which automatic gun-aimers, electronic computers, or mechanical tortoises behave support Freud?

First, not all the mechanical operations of such machines are homeostatic. I do not simply mean that it is possible to construct crude gun-aimers or computers that are not homeostatic. If Freud is right, the central nervous system operates solely as what cyberneticists would call a 'negative feed-back device'—one which reverses the tendency of a system to depart from a predetermined set of values (the end-state). But negative feed-back devices are never more than part of a homeostatic system, and there are always operations in such machines that are not negative feed-back operations. Not only are there operations that do not need to be controlled by negative feed-back at all (the possible error being innocuous) but even those that are so controlled cannot be operating at all times under the influence of negative feed-back; there must be times at which they are either in the positive phase of deviating from the predetermined value or are operating so close to it that the negative feed-back device is not in operation.

For the sake of the argument, however, let us suppose that the central nervous system *is* nothing but a negative feed-back device, and that all positive phase operations are carried out by other parts of the human mechanism (however unlikely this is). Freud's end-state of 'minimum stimulation' is then analogous to the switched-off position of certain negative feed-back devices, of what is called the 'all-or-none' type—for example, the thermostat that switches heat on when the temperature falls below a certain level, and keeps it switched on only until it has been restored to that level. This sort of device operates 'so as to be left alone' in much the same way as Freud pictured the operation of the central nervous system.[1] Here again, his hypothesis, while neither confirmed nor disproved by the analogy of cybernetics, makes sense in the language of that science.

Incidentally, these mechanical analogies help to remove some of the depressing overtones of his hypothesis by emphasising the difference between 'function' and 'mode of operation'.[1] Even if the central nervous system is nothing more than a negative feed-back device of the kind that switches itself off, this merely describes its mode of operation and not what Freud called its 'Funktion' or 'Aufgabe',[2] terms which ought surely to be applied to the part it plays in the larger system that is the human organism. Although Freud undoubtedly recognised that part, this confusion between function and mode of operation was one of the fallacies that led him to his conception of the death-instinct, which pictured the function of the central nervous system as the switching-off of the whole organism.

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[1] The individual neurone is of course an all-or-none homeostatic system in its own right, operating to restore the even distribution of electric charges on its surface. But this does not mean that all collections of neurones are all-or-none devices operating so as to restore themselves to the switched-off state.

4 *The Logical Foundation*

It is probably fair to say therefore, that Freud's hypothesis makes sense in the languages of psychology, neurology, and cybernetics, but that it is curiously hard to extract confirmation of it from any of these sciences. What then is the secret of its intellectual appeal? I want to suggest that it lies, partly at least, in a dim perception of the close logical interdependence between the concepts involved. The key-stone of the whole structure is the Freudian conception of stimulus, which has received remarkably little attention from psychologists and philosophers. A close study of the first part of 'Instincts and their Vicissitudes' suggests that he would have defined it in something like these terms:

> A stimulus is a state of affairs (inside or outside the organism) which gives rise in the nervous system to activity such as to abolish that state of affairs.

For Freud a stimulus ('Reiz') is something that the organism tries to escape, as the amoeba tries to withdraw itself from the point of a pin.[3] His definition excluded the idea of a stimulus as something which is sought. A banana is a stimulus to a monkey not because he is attracted to it but because he tries to abolish the stimulus of its sight and smell, combined with his hunger, by trying to eat it. Hitherto psychologists had divided stimuli into two kinds—the ' sought ' and the ' avoided '. Freud simplified this by asserting that there was only one kind, the ' avoided ', and that apparent examples of ' sought ' stimuli should be regarded as setting up ' avoided ' stimuli within the organism. This was obviously an arbitrary proceeding, for he could have reduced all stimuli to ' sought ' ones by a similar but inverse simplification.

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[1] I suppose there are machines in which function and mode of operation could be said to be the same—for example, Ashby's Homeostat, whose function is to demonstrate a kind of homeostasis.

[2] Freud, 'Instincts and their Vicissitudes', as cited

[3] Here I think he owed a debt to the French biologists and their observations of the behaviour of unicellular animals in the late nineteenth century.

The result of his particular simplification, however, when it is combined with the notions which we saw to be involved in the concept of homeostasis, is an almost syllogistic set of propositions. We have seen that :

> (A) A system in the homeostatic sense is one whose states of least activity, or end-states, coincide with states of affairs readily definable in terms of the system itself.

Freud in effect said that :

> (B) A stimulus is a state of affairs which gives rise in the central nervous system to activity such as to abolish that state of affairs.

It seems to follow that :

> (C) States of least activity in the central nervous system coincide with states of least stimulation.

From which the conclusion is that :

> (D) The central nervous system is a homeostatic system whose end-state is the state of least stimulation.

It is thus clear how much more Freud's general hypothesis depends on his definition of stimulus than on observation. What made this sort of reasoning so dangerously attractive to him was his hankering for simplicity—for a unifying equation. This is manifest in another of his notions—the ' libido ' which he postulated as a single ' power-source ' for the multiplicity of instinctual drives which he could not help observing. As a material monist,[1] he did not want to add to the laws governing inanimate matter in order to explain the behaviour of living organisms. Homeostasis was thus an attractive notion because it was not a law but a pattern which is discernible here and there in the operation of these laws. In more mathematical language, it is sometimes observable that certain sets of values (such as the angle of a pendulum from the vertical or the divergence of blood-heat from 'normal') follow a curve of the form

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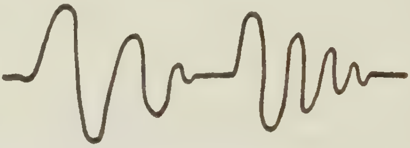
[1] A study of the similarities between Freud and that other great Jewish monist, Spinoza, would be most interesting. Spinoza, for example, thought in terms of homeostasis : ' Conatus, quo unaquaeque res in suo esse perseverare conatur, nihil est praeter ipsius rei actualem essentiam ' (*Ethics*, III, Prop. 7).



It may be that the extent to which this sort of curve can be discovered in nature is not altogether a matter of fact but a question of how one selects one's field of observation, how long one is prepared to go on observing it, and when one chooses to stop. Be that as it may, Freud saw this curve in the phenomenon of dreams, and proceeded to see it in other and eventually all kinds of human behaviour. There came a point, however, at which the observed values did not fall along the curve, and at that point he began to fill it in from imagination, using the device of unconscious stimulation. If he had used Ockham's razor more prudently, and drawn more than one curve, each for a more readily measurable set of values, he would probably have found that these curves assumed the homeostatic form without the use of so much imagination.

But when we are passing judgment on his hypothesis we must remember that by the date at which it was formulated he was no longer a scientist working with laboratory subjects but a clinician who could not conduct controlled experiments to test what was after all merely a by-product of his technical discoveries. This being so, the way in which he anticipated the notions of cybernetics by a generation is more remarkable than his mistakes.

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ON EXPLANATION IN PSYCHOLOGY AND IN PHYSICS

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1 *The Problem*

A PHENOMENON is said to be over-determined if there exists more than one set of antecedent conditions, or causes, and if each set *alone* is capable of explaining how it occurs. Over-determination is thus similar to, though not exactly the same as, what is vaguely called ' the plurality of causes '. It is a technical term employed mainly in the sciences which treat of living phenomena ; many different stimuli act on an organism and each may suffice to bring about the result. Psychological and, in particular, psycho-analytic explanations involve over-determination ; they are often regarded as problematic. We have a multiplicity of explanations instead of a single one ; and it may sometimes appear as if two such explanations were contradictory. This disagrees with the ordinary causal explanation as we know it from physics. The methodological ideal is exemplified by the equation of motion that allows us to describe and predict a unique course of events. The law is expressed by a universal sentence and even by a formula that determines the future by linking a definite single cause to a definite single effect.

It is, however, clear that the explanations we can offer must depend on the kind of phenomenon with which we are concerned. I wish to argue that over-deterministic explanations are acceptable, provided they are properly formulated so as to avoid contradictions. My argument involves four steps. The first step is to show that before we can explain anything we must specify the concepts used for this purpose and, in general, provide a *model.* The second step is to bring out the difference between causal law and the *aetiology* which is appropriate to a ' living ' science. Third, I point out the rôle the *interpretation* of data plays in every scientific theory. And, fourth, I shall argue that the difficulties arising from over-determination can be overcome if we give our explanations in terms of *dynamical processes* rather than of static causes.

2 *The Model*

We say that we have explained a phenomenon if we can satisfy at least two conditions. First, we must provide a theory and a law, or set of laws, by means of which we can describe the phenomenon and relate it to other, similar, phenomena. And, second, we must be able to obtain from the theory a prediction, i.e. a hypothesis about a future occurrence of the phenomenon ; if the event duly arrives, we regard the hypothesis as confirmed and we accept the theory as a valid explanation of the phenomenon.[1] All explanation, however, depends on the tacit or explicit interpretation of the phenomena in terms of the theory ; and both the prediction and the evidence for it are expressed by means of the concepts of the theory, since otherwise the one would not be relevant to the other. This already shows that in order to predict we presuppose a great deal of description, that is, that a vast amount of factual information is incorporated into a theory. We overlook, for example, the various *scholia* in Newton's original exposition as found in the *Principia* ; they are hardly ever mentioned in the modern textbook. Newton used them for introducing the basic concepts, e.g. absolute space, time, and motion, and so on ; that is, he set out the universe of discourse he was going to assume. Indeed, the *scholia* are as important as the theorems, for they furnish the model of the mechanical universe, or the descriptive background without which the theorems could not be derived.

It is a definite defect in the presentation of most theories that we are not told which are the main, factual assumptions (i.e. the model) and which are the derived statements to be tested by experiment and observation. The assumptions play, informally, the rôle of what axioms and postulates represent in a formal, deductive system ; just as the model itself functions, in a way, as a non-formalised theory.[2] After all, a theory must begin by stating the subject-matter with which it is concerned ; and we accept the theory if it allows us to obtain specific predictions that can be confirmed, either about a single instance or about a class of them (i.e. instantial or statistical hypothesis). If we do not succeed in this task, we may change the assumptions, or axioms, that is, invent a new theory; but the axioms are not subject to a direct test, for they provide the conceptual framework with respect to which the test is made.

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[1] This is a very rough and ready way of saying what we mean by ' explanation '. Moreover, predictive success is not necessarily the only criterion by which we judge a theory, though it is the most obvious one, at least in physics. For the purpose of the present discussion, however, the above remarks will have to suffice.

[2] E. H. Hutten, ' The Rôle of Models in Physics ', this *Journal*, 1954, 4, 284-301

To distinguish, however, between the assumptions of a theory and its testable consequences is vital; too often it appears, for example, that a psycho-analytic explanation fails to make this clear. A well-known objection, e.g. of McDougall's, is based on it.[1] He said that the so-called Oedipus complex occurs, if at all, only in very rare cases of severe mental illness; we may predict, and test for, its occurrence in such a case, but we may not assume the complex to exist in all human beings. Actually, this emotional configuration is a universal phase of human development and it is therefore taken as part of the model which is presupposed, though founded on factual knowledge.

Psycho-analysis provides a *genetic-dynamical* model of human personality. The main assumptions are about the genesis of mental processes and the forces involved in them. Any human being, from birth onwards, passes through definite, recognisable stages of development and the psycho-sexual energy for it comes from instinctual sources. To give only the roughest indication we may say that there are at least three assumptions based on fact and forming the semantic skeleton of the theory. The first assumption is that most of our mental activity is *unconscious*; the second, that this activity is largely concerned with the ambivalent love-hate characterising infantile sexuality, i.e. certain basic *conflicts*; and, third, that in spite of their repression the unconscious processes can be investigated, mainly in the transference situation and through the method of *free association*.

This is only the mere outline of the model; it is made more specific by the so-called libido theory and by the theory of mental structure. Even this model, however, is neither complete nor sufficiently detailed. For one thing, the various mechanisms like introjection and projection, denial, displacement, etc., and their use against the anxiety aroused by unconscious conflicts, are added to the model. For another thing, new discoveries are made all the time, e.g. about the mental development in earliest infancy. The model is being changed and improved continuously, as a result of clinical observation.

There are two conclusions I wish to draw here. A scientific theory, or a model, must be given in great detail before it allows us to make predictions that can be tested. The Newtonian model of the billiard ball universe, for example, must include an assumption about the general nature of the forces involved, namely, that they are central forces. For the laboratory experiment is concerned with individual behaviour alone, e.g. of a mass point in the gravitational field. And my second conclusion is that we can discuss and criticise psycho-analytic explanations only against the background of the genetic-dynamical or some similar model.

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[1] W. McDougall, *Psycho-Analysis and Social Psychology*, London, 1936

3 *Aetiology*

It is then important to notice that, in this context, we usually do not speak about causal laws, but about the *aetiology* of a symptom or illness. Similarly, instead of description and prediction, we have *diagnosis* and *prognosis*.

These distinctions point to a number of differences which exist between aetiology and causality as we know it from physics. I shall mention only two of them, namely, about the direction of time and about the plurality of causes ; both involve ideas that are of special relevance to the present problem. While in physics we do not distinguish the two directions of time, a diagnosis requires us to delve into the person's past and to find out, e.g. his libidinal development, fixation points in it, etc. This introduces the idea of *retrodiction*, something which is never needed when we describe a physical system. (To find the exact date of an eclipse which has occurred in the past does not pose the same problem ; for the equations of motion that apply in this instance are independent of the direction of time.) Unlike mass-points human beings have a history, and we cannot possibly hope to predict their future from the present alone.

It is equally impossible to think of the course of human events in terms of the first scientific observation, namely, of the planet in its orbit, or in terms of the first experiment, that is, of Galileo's ball running down a groove in an inclined plane. This has become our picture of reality : we want one single cause and a unique path. But we must never forget that we achieved this description of physical events at a great cost, for we replace the actual, real process by a simplified, ideal schema. We have pared down the physical body so that it becomes the mass-point with only one simple property, i.e. mass (or inertia). We consider every process to be no more than a simple displacement in space and time. And, finally, we prescribe a closed universe of moving mass-points and fixed forces ; this enables us to specify simple boundary conditions and initial conditions so that the differential equation describing the motion has a unique solution.

The behaviour of human beings cannot be simplified in this manner ; indeed, we should not accept an explanation that presupposes such a picture. Many stimuli act on us and our future does not lie along a single path. Certainly, statistical prediction of mass behaviour—like the Gallup poll—seems to work to some extent. To demand, however, that individual behaviour should be as circumscribed as that of a mass-point is obviously unreasonable. Our purpose, however, is different. We do not ask what someone is going to do, but what he has done or what has happened to him in the past, in order to explain his present state ; and we are not interested in the person's future movements but in his emotions. In order to predict future behaviour, we need to know also the political, economic, and other forces which affect it ; otherwise the situation is not as determinate as that of a mass-point ; and this lies outside the province of psychology.

An aetiological explanation is usually given in the following way.[1] We have the biological conditions, i.e. the strength of the instincts and of other, so-called hereditary, traits ; the predisposing conditions, that is, some actual or fantasied episodes in the family life during infancy ; and the precipitating conditions which are the ' immediate cause ' of the neurotic disturbance. The shell-shock of a soldier, for instance, is triggered by the experience on the battle field ; he is, however, predisposed towards it as result of a traumatic episode in early childhood ; and, moreover, his biophysical constitution is such that it favours the occurrence of this illness.

This aetiology could be amplified by bringing in social conditions, etc. (affecting the individual's behaviour at some later stage in his development) and, I think, satisfies most people today. The old-fashioned explanation of an illness by a single ' causative ' factor is no longer accepted even in the instance, say, of an infection where it would be nearest to the facts. We see, then, that aetiology introduces immediately the so-called plurality of causes—in contrast to the causal schema of physics. This plurality, however, is of the simplest kind : we have still only one explanation of an illness, since the three conditions co-operate, to more or less the same degree, in producing it. We are able to retrodict in a unique manner from the present symptoms to the ' underlying causes ', at least in principle ; and it is this character of uniqueness that we customarily demand of a valid explanation.

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[1] S. Freud, *Introductory Lectures on Psycho-Analysis*, London, 1949 ; J. L. Halliday, *British Journal of Medical Psychology*, 1943, **19**, 367-380

4 *Psychological Determinism*

Aetiology, however, displays other features that raise problems. First, there is the difficulty that the three conditions are not all of the same (semantic) type, for some may refer to somatic and others to mental processes. This introduces the so-called mind-body problem.[1] Second, we may have *over-determination*, that is, we find more than one set of conditions, and each set *alone* seems capable of explaining the neurotic behaviour. And, third, there is what has been called Freud's determinism, namely, that every scrap of evidence, however irrelevant it appears to be, and ' unreal ' data like phantasies are used to substantiate the explanation.

All three ideas hang together. And let me begin with the determinism which has really nothing to do with what is commonly understood by it, save that it also implies the search for a scientific law. There is no need to feel that this kind of determinism introduces the necessitarian undertone which we no longer like to hear. Psycho-analytic writers, for example, have argued that this view of causality is close to the infantile phantasy of the *omnipotence of thought* and that feelings of neurotic compulsion and guilt contribute to it.[2] And the usual arguments from modern philosophy and physics hold, too ; they enabled us to do away with the idea of necessity, while retaining the description of natural phenomena by a causal law in the wider sense (e.g. by a differential equation or by a statistical distribution). In other words, neither psychological nor physical causality implies a metaphysical belief in ' the iron rule of law '.

The import of psycho-analytic determinism lies elsewhere ; what is strict about it is, so to speak, not the rule of law but the rule for collecting the evidence. We tend to forget that nature does not provide us with ready-made data for every hypothesis we care to invent ; and no account of how we test and confirm a hypothesis is complete unless we indicate a theoretical method (and, if possible, also a practical procedure) showing us what sort of things we are to accept as evidence. This is true for every scientific theory, including physics ; yet when we give such rules in psychology, we find that most people raise very vigorous objections. They fail to see that everything a human being may feel, or say, or do—or not do, though the occasion calls for action—provides legitimate data for the theory. And most of the data are exactly of the kind that, in ordinary life or in the laboratory, we would reject as irrelevant ; for fantasies, dreams, slips of the tongue, or the incidents and accidents of everyday life, are what we normally consider as worthless and unreal. They represent what physicists call, jokingly, the dirt effect. We cannot believe that such data could possibly support any hypothesis, since the quality of the evidence provides one standard for judging the worth of a hypothesis. Yet if we did neglect these data, we would not only lose our evidence, we would even let in miracles. For it amounts to saying that there are events in our lives that need not, and *cannot*, be explained ; we would thus give up our search for an explanation in terms of a law. This argument about miracles is well-known, e.g. from probability theory, and I need not prolong it here. Freud's determinism merely implies that anything connected with human behaviour can, and *must*, be used in support of a psycho-analytic hypothesis.

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[1] E. H. Hutten, *Methodos*, 1953, **5**, 187-202

[2] S. Rado, *Psycho-Analytic Quarterly*, 1932, **1**, 683-700 : H. Kelsen, *Society and Nature*, London, 1946

When I slip on a banana peel in the street, I may explain this accident in physical terms, as effect of diminished friction. I may also give a physiological explanation by saying that I was tired and that my legs did not work properly. But if I want to use this datum for finding out something about my mental state, I must relate it to the feelings and phantasies I had at the moment. Such feelings are, ordinarily, so fleeting and consciously imperceptible that it is difficult to recognise them. It may take hours of analytic sessions to find out the relevant, unconscious phantasies. And I may find, for example, that I had been angry and that my feelings of guilt brought about the accident as punishment.

People usually feel that this interpretation of the data is ' forced ' and goes beyond what they can reasonably yield. Is it not enough to explain the accident in physical terms and do we not deny reality by offering a phantasy in its stead ? And is it not an empty explanation, since it applies to any human action ? Of course, this is not so, for we explain each action separately, in terms of very specific unconscious mechanisms. It is not like saying that ' everything happens according to fate '. And we do not reject the physical explanation ; we only say that there are others, and it may well be that, in a given instance, the physics of the situation plays a bigger rôle than our feelings. To see everything we do, apart from what it may mean in external, physical reality, *also* in terms of psychical reality and of unconscious processes is not like viewing the world through the empty frame of fatalism. Rather it exemplifies what Einstein once said that 'the evolution of our world of ideas is in a certain sense a constant struggle against the "miraculous"'.

The interpretation of data also obviates the mind-body problem, at least in this context. For we interpret even 'real', physical events in terms of the 'unconscious': we do 'read into' our data the unconscious phantasy and we can give rules for this interpretation. This is no more than reading the concept of mass-point into the motion of the planet, or of the falling apple, or of the tidal wave. We must always express whatever we observe by means of the concepts of the theory we wish to apply. It is exactly one function of the model to allow us to do so; we describe all happenings in terms of psychical reality and so can dispense with the frame-work of physical space-time which does not apply to mental phenomena. Otherwise we would be left with the puzzle of how a physical event can 'cause' a mental event, or *vice versa*. Freud was very much aware of the metaphysical nature of the mind-body problem and he refused to get caught in it. My point is, then, that neither the mass-point nor the unconscious are simply 'given'; when we do science, we must not only invent concepts, find laws, and formulate hypotheses: we must also search for the evidence.[1]

5 *Over-determination*

It is this *multiplicity* of data which results from interpretation that brings out the over-determination of mental processes. Leibniz said that consciousness is a *multorum in uno expressio*. A given event may be explained as arising from different causes and according to several laws. We have more than one explanation; and so we feel that none of them can be true since we normally expect a unique explanation for a single happening.

Now, most people would admit that human behaviour may be explained on different levels, by means of concepts belonging to various discourses or theories. This holds also sometimes in physics, e.g. the Carnot cycle or the kinetic model of thermodynamics. Human actions are affected by cultural, social, economic, physical, and many other factors. Explanations of this sort may on occasion be combined in one causal account, when the various factors are all of the same (semantic) type and when we can estimate their strengths and interactions. This cannot always be achieved, however, and we must accept a number of such explanations which run more or less parallel and which are all needed for giving a complete account. We may remember here another example, though I wish to suggest only a formal, and not a material, similarity to the present problem. It is that sometimes we have just two explanations that cannot be combined because they are complementary, since the concepts involved in each of them seem to be incompatible or even contradictory, e.g. the concepts of wave and particle in quantum mechanics.[1] In all these instances, however, we tend to overcome our objections by saying that we have here *alternative* explanations.

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[1] E. H. Hutten, *Analysis*, 1950, 10, 126–136

Over-determination, in the strict sense, implies a little more than this, for we explain a given symptom or character by means of the concepts of one single theory, namely, of psychology. The same hypothesis may be supported by several, independent data ; or, we have *multiple* explanations given in terms of different mental mechanisms, though these may belong to various levels or structures in the psyche.

This situation may also occur in physics. A large variety of initial conditions for the motion of an assembly of mass-points, for instance, ends ultimately in the same state, viz. the ergodic hypothesis. One reason is the *homeostatic* character of the system which is constituted of the mass-points. Something like this, i.e. the equilibrium-seeking tendency of the organism, might serve to make the multiplicity of psychological data acceptable. Another reason may be *genetic continuity* ; or, the various phases in human development correspond to one another and even represent repetitions of the same unconscious mechanisms on different levels.[2] Thus we obtain several sets of conditions leading to the same result. Many other arguments, no doubt, can be found. What matters is that we can understand the multiplicity in terms of the model. We need not put all the causal antecedents of an event into one single sequence ; the causal structure of the world may be pictured not by a line, but by a bundle of lines, as was shown already by relativity theory.[3] My conclusion, then, is this. Classical physics is taken as a standard when it is said that a scientific theory must explain a given phenomenon in one way only; but this is not really true even there, and certainly not in modern physics. Underneath this ideal is, I think, the metaphysical belief in the mechanical determinism of past centuries, according to which everything in the world is connected by the iron chain of necessity. Multiple explanations are acceptable and valid as long as each of them is open to observation and experiment.

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[1] E. H. Hutten, *Methodos*, 1953, 5, 187-202

[2] J. Riviere, in *Developments in Psycho-Analysis*, London, 1952

[3] H. Reichenbach, *Philosophie der Raum-Zeitlehre*, Berlin, 1928

6 '*Contradictory*' *Explanations*

Over-determination, however, may involve more than the multiplicity of explanations. It happens on occasion that two of the explanations appear to be contradictory. If the situation were as simple as that, psycho-analytic theory would be worthless, for then we could maintain any hypothesis we like.

Let me mention, first, an instance in which contradictory explanations are more easily understood, namely, when unconscious motives and conscious intentions conflict; then we do feel justified in expecting, and accepting, two opposite hypotheses about the future behaviour of a person. The reformer who wants consciously to save mankind only succeeds in killing people, following his unconscious wishes. We have here, so to speak, two sets of opposing, though *not unrelated*, data and each of them supports one of the rival hypotheses. We understand that reason and emotion do not always go together, and this results in an incompatibility rather than a logical contradiction. A conflict is not a matter of logic but of fact.

I turn now to the example in which one and the same set of data leads to two exactly opposite results, e.g. the same aetiology may explain how a man becomes a criminal or a policeman. Two contradictory hypotheses are supported by one set of data. We see then that it is just the contradiction that saves the explanation. For it shows that the processes underlying human behaviour are *dynamical*, in the sense that they represent a conflict, or a tension between two poles. Thus it will depend on the *strength* of the always *ambivalent* feelings arising from the unconscious conflict whether someone will turn into a criminal or become a policeman or perhaps both. The popular proverb that it takes a thief to catch a thief reflects this understanding of human character.

What this explanation implies in terms of conventional morality is one reason that arouses objections against it. We feel it is unfair to say that the policeman and the criminal are similar types of people on the unconscious level. Often one side of the character is so suppressed that we cannot see it ; this is the so-called reaction-formation. But sometimes the strength of the unconscious forces involved in the conflict changes ; we all know 'the worm that turns', when an ordinarily meek person suddenly becomes aggressive. In psychology the situation is not as simple as in physics where we have a single set of fixed *static* (initial and boundary) conditions and *constant* forces. Even if we have only a single, aetiological explanation, we need to evaluate the strengths of the three conditions and consider that they change in time. All the same, we can often say whether physical constitution, or an unhappy childhood, or later circumstances are most to blame for the illness of a person. Similarly, we can sometimes find out beforehand whether the good conscious intentions or the doubtful unconscious wishes of a reforming politician are stronger and so predict what he is going to do. And we can, by an analysis, estimate the strength of ambivalence and so give a prognosis for the future behaviour of a person.

The argument that an over-deterministic hypothesis is too strong, or that the multiplicity of data prescribes the future more than is reasonable, is certainly not correct. Nor is it right to say that too many data spoil the hypothesis, as is sometimes argued, or that the future is not sufficiently prescribed by it. Both arguments are not compatible with the description of the facts as given by the genetic-dynamical model. I conclude, then, that it may be difficult in practice to judge an over-deterministic hypothesis ; but it is, I think, justified to say that over-determination is accessible—at least in principle—to observation and experiment.[1] For the evidence supporting such a hypothesis is incomplete, in exactly the same sense in which this is always true, namely, that new data may be found which do, or do not, confirm it.

7 *Process Explanation*

There are actually no grounds for saying that over-determinism forces us to accept two contradictory hypotheses. We must remember that a model of human personality is presupposed that includes various psychic levels and structures and especially the idea of unconscious conflict. The diagnosis and prognosis must be put in terms of a *process* rather than of opposing constant forces and things. The difficulties of inventing a language suitable for describing a process are well-known from the history of philosophy. Moral conflict, for instance, is also difficult to describe, since it is usually—and incorrectly—believed to arise from conscious, and constant, duties alone ; and the moral law supposed to prescribe the right course of action can then not resolve the conflict.

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[1] E. Pumpian-Mindlin, in *Psychoanalysis as Science*, Stanford University Press, 1952

We encounter contradictions if we try to resolve a process or conflict into the two polarities and treat each of them as an independent static entity. This leads us to make the contradictory statement that a given set of conditions causes a certain effect *and* its opposite. A physical or mental conflict is made into a contradiction by means of a logical dichotomy. We say that John either loves or hates Jane ; but it is no contradiction to say that John feels both emotions at the same time or that they may change from one day to the next.

The usual cause-and-effect language breaks down when we want to treat of processes in which we cannot recognise immediately some constant element. It works only if a process is no more than the displacement of a permanent thing in space-time under the influence of a constant force.[1] This is largely true for physics ; but even there exist examples when this no longer holds, e.g. the real irreversible process of thermodynamics, or, perhaps, the transformation of oppositively charged mesons into each other. A psycho-analytic explanation is about a conflict or a process. We may express the hypothesis in terms of the relative strength of the two opposites ; but we cannot split the process and formulate a pair of contradictory hypotheses referring to one or the other of the opposites. This is excluded by the model.

A discussion like this tends to degenerate into speculation, since we have no accepted logical terminology for it ; and philosophical as well as psycho-analytic writing about conflicts and processes soon becomes logically disreputable, because contradictions continue to crop up. No doubt, a better way of speaking will be developed as a result of further research ; but we can try even today to use a language that avoids false dichotomies.

Summary. Certain features of psycho-analytic explanations are contrasted with those found in physics. In order to facilitate communication,

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[1] J. Piaget, *The Child's Construction of Reality*, London, 1955

I have tried to keep the discussion within a frame of reference that is generally accepted today. I conclude that some of the objections against them are based on a methodology that is taken from Newtonian mechanics, or rather the misinterpretation of it current in the past century. We can still learn from physics, and even from classical physics. But we must learn also to respect the diversity of subject-matter and expect it to influence the structure of a theory. Methodology may not be used for prescribing what science should be. We use it for reconstructing a theory in logical and semantic terms, in order to make sure that science gives us a true account of reality.

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THE WORLD OF THE UNCONSCIOUS AND THE WORLD OF COMMONSENSE

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I *Affective and Intellectual Resistance to Interpretation*

THE basic procedure of analysis, due to Freud, is well known. The patient tries to convey his conscious thoughts and feelings to the analyst who, in virtue of his own previous analysis, believes that in many of them he can recognise the influence of other thoughts and feelings which are repressed. When he interprets this connection, the patient may himself recognise it as correct or he may not do so for one of two reasons : either he may understand the interpretation but reject it as untrue, or he may fail to understand it. In both cases, if the analyst still believes his interpretation to have been correct and lucidly expressed, he will attribute the patient's failure to accept it to an affective resistance which he will try to analyse in turn. But there are intermediate cases in which the sense of an interpretation, though verbally understood, will seem too ' impossible ' to be vividly conceived ; and here, at least, a specific intellectual problem may also be involved.

The contrast between two sorts of interpretation, one comparatively superficial and the other deep, may illustrate the kind of problem I have in mind. A woman patient [1] begins a session by saying she has just seen an overdressed person in the street, who looked like a prostitute and to whom she has taken an immediate dislike. From such material, if supported by previous evidence of a similar kind, the analyst perhaps infers that, unconsciously, she believes this person to be another, and a preferred patient, who has just left and with whom he has been having an affair. She may accept the interpretation with embarrassment, or contemptuously reject it with the remark that he must be very conceited to imagine that she could have any personal interest in him or his other beastly patients. A rejection of this kind is clearly no disproof. But, whether true or false, the rejected interpretation is intelligible and has been clearly understood.

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[1] The assumption of a woman patient being analysed by a man is a grammatical convenience which permits the substitution of pronouns for a tedious repetition of the nouns.

Now take the kind of ' deep ' interpretation which is often given by analysts, such as myself, who have accepted Melanie Klein's theories on the early development of children.[1] Another patient, or the same one at another time, is anxious to be helped and for this purpose to accept almost any interpretation that may be given. For while yesterday she felt she had got a great deal from her analysis and became elated, she is now anxious and depressed. In particular, she has suddenly become anxious about money. So many demands are being made upon her, especially by the expenses of analysis, that she will soon be destitute. And to her anxieties on her own behalf is added depression about her inability to give adequate presents to certain friends to whom she now remembers she owes much.

Taken singly, these various worries may seem sufficiently explained in terms of their conscious causes. But their general pattern, coming as it does just after a period of elation in analysis, will suggest to the analyst the influence of a deep unconscious phantasy with which he is familiar, and can only be familiar, through his own analysis—a phantasy about an early feeding situation. He may therefore tell his patient that yesterday she felt as if she had swallowed some ' good thing ' from him, represented by the ' good interpretations ' she so avidly consumed, but that this now seems threatened inside (ultimately by her own dissociated greed which she attributes to everyone who may make demands on her, and especially to himself).[2] He may add that, at the same time, she feels overwhelmed with gratitude for the same good thing, is in despair about never being able to repay it and that this despair has increased her fear of its becoming a ' bad thing ' which will eat her up (and the good one inside) in revenge. Finally, he may explain that these complex feelings repeat those she experienced in infancy in relation to her mother and that the ' good ' thing, which may be lost or become ' bad ', is a breast.

If accepted—and to be accepted it must first be understood—an interpretation of this kind may at once relieve the patient's distress. But, unless great care is taken to phrase it in terms of feelings of which she is already aware, it is likely not so much to be rejected as untrue as to fail to convey any clear impression of its content. For, though not logically meaningless, it may well seem to be factually nonsense.

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[1] Melanie Klein, *The Psycho-analysis of Children*, London, 1932 ; *Contributions to Psycho-Analysis*, London, 1948

[2] The bracketed clause will, of course, be expressed in simple language.

If so, the lack of understanding may be attributed either to an emotional resistance in the patient or to the analyst's failure to express himself in appropriate terms. But, in either case, it cannot be denied that his difficulties are increased by the incompatibility of what he is trying to say with many preconceptions both of science and of common-sense.

The patient may object that she has been bottle-fed from birth, so that her present feelings cannot possibly repeat those she once felt for her mother's breasts. And, in any case, if her sense of material reality is firmly established, she will find it hard consciously to conceive the idea of containing her analyst's breast—especially as he is a man and has not got one. Thus, what she does understand of the interpretation will seem to be scientifically impossible, and the rest will be inconceivable to her.

A comprehensive study of the intellectual implications of these two difficulties would take us far : one is concerned with biological theories of the nature of instinct and the other touches an ancient problem of philosophy—that of the nature of reality itself. I will try to deal with the first one first ; for, though less fundamental, it is, I think, related to, and can serve to introduce a discussion of, the second.

2 *Instincts*

The prevalently material trend of science has accustomed us to think of instinct in terms of innate behaviouristic reactions to stimuli rather than as innate cognitive, affective, and conative responses to sensations. Moreover, the very suggestion that there could be an innate cognitive element in any response is apt to be repudiated as implying an impossible belief in the inheritance of memory. We therefore start burdened with two prejudices : one general against a subjective theory of instinct at all ; and one specific against the suggestion that inherited memory, or anything like it, can possibly be found.

The case against the inheritance of memory rests mainly on our inability to imagine any biological process by which the acquisitions of an individual could so affect his germ cells as to become innate in his offspring. This is not of course conclusive evidence against Lamarck ; but I accept it the more readily because I believe that something resembling racial memory, should it be found to occur, could be explained quite well without him. We confidently assume that the physiological concomitant of memory is a cerebral process conditioned by an acquired modification, perhaps in synoptic resistance, of some complex pattern of neurones. But it is possible to imagine that similar modifications could arise as the result of mutations in germ cells and that these would tend either to die out or to spread through the species, according to their value to it. If so, the psychic concomitant of cerebral processes determined by heritable modifications of this kind could be mistaken for racial memory, when in fact it was the result, not of the experience, but of the mutations of former members of the species. In other words, if such mutations have occurred and been selected, we could, for example, be born into the world with some capacity to ' recognise ' the more important objects and situations we are likely to encounter without having inherited any ' memory ' of them.

Now we know from the study of animal behaviour that there are many highly complex innate reactions to stimuli—for example, the ' gaping ' response of the newly hatched gull to the red spot on its mother's bill [1]—in which animals behave ' as if ' they ' recognised ' an object or situation they had never experienced before. If, therefore, we were not afraid of interpreting our observations in psychic terms, we might conclude that some innate capacity to recognise what has never been experienced not only could be, but has been, evolved.

That we do not jump to such conclusions is the result of a determination to stick to what we can actually observe. So long as we are dealing with animals other than ourselves, this may be a wise restraint. But it leads to a paradoxical result when our own species is the object of study. For, while we are not yet able to do more than guess the nature of the cerebral processes which mediate between stimulus and innate reaction, their psychic concomitants can be observed in ourselves or described to us by others. To exclude this part of the evidence is, therefore, to exclude the only link between stimulus and innate reaction that we can so far observe.

These psychic processes may, indeed, be difficult to observe correctly. Different workers often disagree about what is there to be seen. But at least there is a technique, that of psycho-analysis as developed by Freud which makes such observations its principal concern.

Of course the analyst is never presented with material that is entirely uninfluenced by learning.[2] But he habitually deals with psychic patterns that are both very early and very general, and in which even the individual variations appear to result as much from different heredities as from different environments. So he has no doubt that he is dealing with innate modes of thought which, though certainly evoked by experience, have hardly yet begun to be specifically moulded by it.

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[1] See N. Tinbergen, *The Study of Instinct*, Oxford, 1951

[2] Especially if pre-natal experience has to be considered.

But if he tries to make a clear distinction between instinct in a primary form and instinct as moulded by experience, he will encounter a special difficulty which is itself significant. He will have to rely on external evidence since no internal difference, except in degree of precision, can be found. However far back he goes and however certain he may be on other grounds that he is dealing with instinct in the raw, he will still find in it, not only affective and conative, but also cognitive aspects which might have been supposed to be the hall mark of a learned response. . So it begins to look as if what I have suggested as possible is in fact the case : that we are born into the world with the capacity to ' recognise ' some of the objects and situations we are likely to encounter in it.

There is much psycho-analytical evidence that we are so born. And this is perhaps a sufficient basis for some further advance in the psycho-analytic theory of instincts—which is admittedly in need of much development. Here biology can help us ; for it has already given names to certain elements in innate behaviour which would seem to have their psychological equivalents. The concepts of ' sign stimuli ' in ' innate releasing mechanisms '[1] is particularly suggestive because it is as such that certain *gestalts*, having the characteristics, for example, of a breast, would seem to function in the human infant. I think we need a special term for these. The word ' symbol ' in its analytic sense does not quite fit. When we say a child is responding to a ' symbol of the breast ' we imply that he is responding to something other than the breast : but the term we need must include the object together with its symbols so far as these elicit an innate response. In spite of a slight risk of confusion, I suggest the term ' primary symbol ' for this purpose.[2]

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[1] Tinbergen, op. cit.

[2] Jungian ' archetypes ' and Platonic ' Ideas ' may have affinities with ' primary symbols ' as defined above. In particular, Plato's theory of ideal forms laid up in heaven which are dimly remembered when we perceive their imperfect earthly copies, would seem to me to have its basis in that sense of recognition which I believe to characterise the psychic response to a primary symbol (innate release stimulus).

There seem to be several primary symbols. All are *gestalts* having the characteristics of some object or situation of major biological importance, such as breast, mouth, penis, vagina, and the act of intercourse. And there can be little doubt that the innate response to them is cognitive as well as affective and conative. That is to say, any sensory pattern having the *gestalt* of a primary symbol arouses a ‘ sense of recognition ’. At least it is ‘ recognised ’, often, of course, wrongly, as something desirable or dangerous and, for this reason, evokes rudimentary emotions of love, fear, or hate, together with some striving, if only in imagination, to possess, escape from, or destroy it.

We must suppose that innate psychological responses of this kind have been evolved because they help the infant to adapt himself, almost without experience, to specific objects and situations he is likely to encounter. But, even if he does not encounter them, he will still respond, in much the same way, to some other object or situation of the same *gestalt*. So the analyst who interprets some pattern of his patient's emotional response towards himself as a repetition of her response to her mother's breast, is not much disturbed by the discovery that she was bottle-fed from birth. For it is still true that she was repeating her response to a primary breast symbol.

Yet there is perhaps a subtle difference between her and other patients which he might have noticed : a greater sense of having missed something which she ought to have possessed. Must we then suppose that there is also a specific innate idea of the breast ? Biologists describe innate ‘ appetitive behaviour ’, in response to the stimulus of an internal need, which precedes the ‘ consummatory act ’ evoked by an innate releasing stimulus. The animal or baby seems to be ‘ looking for ’ something which it may never have encountered before. But the innate capacity to ‘ recognise ’ what is needed does not necessarily imply a positive innate idea of it. All we can be sure of is that there are graded acts of recognition of the form ‘ this is not it ’, ‘ this is nearly it ’ and ‘ this is it ’. So if we speak of innate ideas we should perhaps regard them as being at first only negatively defined.[1]

3 *Reality*

It seems a far cry from biological theories of instinct to philosophical theories of reality. But I believe instinct in the main creates our first world which survives in the unconscious, and that the commonsense world is developed from it under the influence of a few months' experience.

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[1] But this is a matter about which it is perhaps best to suspend our judgment for the present.

This commonsense world is so familiar that we think of it as something we have been born into and which will exist, independent of our thoughts and feelings, long after we have left it. But we can also think of it in terms of subjectivist philosophy as an ordered arrangement of sensations, including feelings and memories of them—that is, as something constructed by ourselves. And, in doing so, we can see in what sense it is objective and substantial too.

In the first place, it is egocentric.[1] We can certainly move about it in thought, viewing it from any point we choose within its space-time framework. But our bodily sensations normally remain fixed at its momentary core. So long as this remains, the ego is felt to be separate from its ' objective ' surroundings. Thus the egocentricity of the world prevents it from being solipsistic. But it may become solipsistic in states of ' depersonalisation ' when its egocentricity is lost.

In the second place, it is dualistic. That is to say, the sensations and ideas of which it is ultimately built, are grouped in two different ways to form two different kinds of entity : ' solid ' percept-objects, including animal bodies, and ' unsubstantial ' minds which these bodies ' possess '. In it, therefore, three types of relation are distinguished : those between different objects which comprise the physical part of the world ; those between different minds or different parts of the same mind which comprise the sociological and psychological parts ; and those between objects and minds which comprise the psycho-physical part.[2] But the distinction between sensations and ideas can also occasionally be lost ; and then the world becomes monistic.

Lastly—besides the two divisions between the ego and its surroundings, and between matter and mind—the division between subject and object occurs in a third and more fundamental way. For we can also think of the whole common-sense world as being only a ' subjective model ' (which, within limits can be tested [3]) of an objective ' reality '

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[1] The concept here developed of the world as radiating from the body-ego is similar to Clifford Scott's concept of the ' body scheme ' which is itself an extension of Paul Schilder's concept of the ' body image '.

[2] Strict behaviourists believe that only the first of these relations is a fit subject for scientific study.

[3] Thus, for example, the model contains memory images, and so expectations, of what lies beyond our field of view, and these can be proved to be either true or false according as they do or do not correspond with the extended field of view we obtain by moving. The model and what it represents coincide in present experience.

(which within limits can be predicted or controlled). It is true that when we enquire what it is that we can compare with the model and predict or control, we find that it is no more than some future sensory experience which is only objective in the sense that it is not being experienced now. It is also true that the switch from thinking of the commonsense world as reality to thinking of it as a model of reality is only a change in the order of the model we are using—a switch from a first order model to a second order model of the relation of the first order one to what it represents.[1] But the fact that we make the switch at all has its roots in actual experience. If our expectations and our wishes were always automatically fulfilled, I do not think we should ever do so. It is the experience of surprise and disappointment that forces us to think of the ' real ' world as something different from our conception of it—something discovered rather than created by ourselves. And this would seem to be the basic source of our sense of its objective independence.

We also discover the limits beyond which the world thought of as a model cannot be verified, as well as those beyond which, when thought of as reality, it cannot be controlled.

Thus, for example, we discover that the physical aspect of our world model is more easily tested than its psychological or its psycho-physical aspects. Subject only to the limitations of our movements in space-time, its physical aspect is always potentially testable and is, in fact, confirmed whenever perceptual experience coincides with our expectations about the behaviour of percept objects. The psychological aspect, comprising our picture of our own and other people's minds is, strictly speaking, only testable in the part that represents ourselves (and then only so far as this is conscious) since we cannot perceive the mental experience of others. But because we perceive a ' psycho-physical ' relation between our own ' physical ' acts and ' mental ' processes, we expect other people's acts to conform with our picture of their minds and assume it ' true ' until these expectations are disproved.

We also discover that the extent of our capacity to change the ' real ' world depends on the section we are concerned with. If we observe ourselves from without, which we can do in thought, even our thoughts seem to be determined by heredity and environment.[2]

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[1] Failure to distinguish between models of different orders is probably responsible for some ancient confusions in philosophy.

[2] The determinist view that the desires which determine action are themselves determined by heredity and environment is by no means the same as the fatalist

But, experienced from within, our control over our own thoughts, feelings, and desires is restricted only by internal conflicts. Next absolute in degree is the control we exercise over those percept objects which comprise the limbs of our bodies. The thought of moving them seems automatically to produce the ' real ' movement, so far at least as they are uninjured and not in any way restrained. It is by means of our power to move them that such more limited control as we possess over the rest of the world is achieved. By pulling or pushing we move physical objects, perhaps also causing them to operate mechanically, chemically, or electrically upon other physical objects. Or, by moving our tongues in speech, we seek to influence the ' minds ' of other people, either as an end in itself or to do something for us. This completes the list of modes of control we can certainly exert, though some people wish, and others fear, to believe that more direct and mysterious modes are also available to us : for example, by magic, by prayer, or by telepathy.

The above account of what philosophers call the naïve world of commonsense is clearly Humean (or Machian) in character. I have stressed this subjectivist approach because I believe that if we can think of the commonsense world, with all its objective solidity, as a psychological construction which mirrors the possibilities of sensory experience, we are also able to imagine that it might not always have had this solidity for us. In other words, we can imagine a world which is without those distinctions (between ego and its surroundings, mind and matter, thought model and what it represents) which characterise our relation to the world of common sense. And if we can do this, it may be easier for us to conceive the possibility of the strange world of the infant, and of the unconscious—a world in which, for example, ghostly breasts can be swallowed whole and bite back at their attacker.

This other world, which analysts are trying to explore, appears, as I said, to be the product of instinct rather than experience. At the beginning no pattern of sensation seems to be perceived at all unless it has the *gestalt* of some primary symbol ; and, since grades are not yet distinguished, all examples of the same primary symbol are equated. So corresponding with the few innate needs of our species, the first world—so far as we have yet been able to reconstruct it—

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view that our fate is independent of volition. As far as I know, Professor Moritz Schlick was the first to show that the two views are incompatible.

appears to have only a few types of object and activity : almost everything seems to be a breast, a mouth, or a penis, and almost every activity an eating, an evacuation, or an intercourse[1] ; and even these few separate categories are often fused together. Moreover, there is no difference between the percept and the memory of things, or between situations that occur and situations constructed in imagination in what is not yet a dualistic world ; and no stable boundary between ego and object in what is still predominantly a solipsistic one. There is, however, one clear distinction and this separates much that later will be treated as identical. Every object or situation has two forms, one good and the other bad, according to the affective response to it.

The affective response determines the conative. Something is done with the object or situation in phantasy ; and, since there is almost no distinction between ' solid matter ' and ' ghostly image ', almost anything can be done with it. But it would be a mistake to suppose that this first world is therefore a place of blissful wish-fulfilment. Conative impulses are in perpetual conflict and not yet integrated in such a way that there can be a resultant of opposing forces. Indeed, there is not one child with conflicting feelings, but several ' bits of child ', with different feelings which may temporarily unite only to be again split by the next conflict. And then the dominant bit, which most nearly has the sense of being an ego, will feel threatened and persecuted by the other bits which, like evil spirits, seem to be endangering its world.[2]

From this phantastic world, the world of common sense gradually emerges under the influence both of internal maturation and of external experience. Some degree of integration of conflicting impulses into one ego, as well as some recognition of the identity between good and bad aspects of objects and situations, would seem to occur in advance of a clear distinction between phantasy and fact. At any rate, there is an important phase of development—the ' depressive position ' discovered and so named by Melanie Klein—at which a child begins to feel responsible for, and depressed about, all the damage he has done in phantasy ; and these feelings are as acute as if he had really done it.

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[1] These words stand, of course, not for our precise idea of the corresponding objects and activities, but for their primary symbols or *gestalts*. Whether or not there are really only so few objects or situations in the infant's world can, of course, only be determined by future research.

[2] Thus, unlike the world of common sense, this first world is not within limits controllable. It would seem rather to fluctuate between the two extremes of being omnipotently controlled and wholly uncontrollable.

Before long, however, the two vital distinctions between the ego and other people and between phantasy and perceptual fact (mind and matter) are firmly established at a conscious level. Meanwhile objects previously identified in virtue of a common *gestalt* are being differentiated on the basis of their several uses, and new classifications on the basis of more practical similarities are being formed.[1] So, under the influence of perceptual experience, the world of common sense rapidly develops ; and, by the middle of the first year, it is probably complete in all essentials like the world of any sane adult. Henceforth it is clung to with a tenacity that impedes all efforts to form a clear picture of its forerunner. Nevertheless, the old world can reappear in dreams, and the new one can be lost in states of madness. Perhaps it can also be temporarily surrendered in philosophic contemplation.

But I doubt whether a course in subjectivist philosophy would have really done much to help the patient I quoted. Perhaps it is only because the philosopher is already a certain sort of person that he can think of the world in subjective terms. To the average laymen, Hume's unsurpassed lucidity is as incomprehensible as a hieroglyphic. This is not, I think, because the layman is stupid, but because the subjectivist argument arouses a deep anxiety in him. It seems to threaten that sense of being a solid person, surrounded by a solid world, on which his sanity and life depend, and he clings to it the more tenaciously just because it is precarious. That this world is less indestructible than it may seem is perhaps a fact which both the philosopher and the analyst have been able to accept.

What the patient in analysis and the layman in philosophy really fear is the unconscious world of infancy which lies beneath it ; and the fear of being engulfed by this ' mad world ' must be lessened by interpretations of anxiety before interpretations of its content can be clearly understood.

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[1] The original classification with a few primary *gestalts* is, however, never really lost. Our emotional response to objects is determined by their symbolic meaning as well as by their practical use.

REVIEWS

The Origins of Psycho-Analysis, Letters to Wilhelm Fliess, Drafts and Notes: 1877–1902. By Sigmund Freud.
Imago Publishing Company, Ltd., London, 1954. Pp. xi + 486. 30s.
Sigmund Freud, Life and Work. Vol. I: *The Young Freud;* pp. xv + 453. 27s. 6d. Vol. 2: *Years of Maturity,* pp. xviii + 534. 30s. By Ernest Jones.
The Hogarth Press, London, 1953 and 1955.

We believe a scientific theory to be objective, in the sense that the theory is exclusively concerned with nature as given and that we may disregard the scientist who invented it. The theory is, so to speak, the impersonal product of a person. Of course, nothing that is made by man is quite as objective as this ideal would suggest. And if the theory is as young as psycho-analysis—barely more than fifty years—the biography of the man who originated it may well be of interest to the philosopher of science.

Indeed, both Freud's biography and the letters he wrote to Fliess contain much that is valuable for explaining psycho-analytic concepts. We see, for example, how Freud tried to keep his theories as close as possible to the 'respectable' sciences of biology and physiology. He took over from physics Helmholtz's principle of conservation and applied it to the energies which occur in mental processes. It was only under the impact of clinical experience that Freud, slowly and somewhat grudgingly, admitted that psychology had to have new concepts and to develop its own distinct methods. The letters are full of informal discussions about the conceptual problems that arose during the growth of his theories; Freud called this his 'metapsychology'.

But perhaps the most instructive illustration is provided by the difference in approach which Freud and Fliess had to science. Fliess's theory of periodicity seemed to be quite scientific, objective, and based on biological and physiological facts; there are obvious cycles in human life, and the theory could even claim some success in practice. And yet it turned out to be spurious and pseudo-scientific, in spite of its solid basis. It was psycho-analysis, based on proverbially unreliable and in every sense not respectable data, namely, dreams and phantasies, that stood the test and was finally accepted as a science.

Freud grew up in the atmosphere of the simple and robust materialism which prevailed in the second half of the last century. He freed himself only slowly from this prejudice; it took him several years until he realised that the traumatic episodes his patients recounted to him were pure fantasies and had never taken place. It is interesting to follow, in the biography, how from this disheartening discovery the conception of unconscious processes gradually developed in Freud's thought.

The concept of ' unconscious ' had indeed been current for some time before Freud ; but it had remained barren, for its proponents had a too simple, and also an unclinical, approach. The unconscious was conceived by them in static terms, as a sort of ' little man inside of us '. Freud let himself be guided by technique and therapeutical practice before he invented a dynamical theory of unconscious processes ; and he was able to describe in great detail the various mechanisms in which they work. Moreover, such processes are truly unconscious and not merely hidden ; just as the electron, for instance, is in principle invisible. We can ' see ' the electron only through its effect, say, on a photographic plate ; similarly, we observe the unconscious process through its conscious derivatives alone. The failure to appreciate this situation, that is, to understand the idea of repression has given rise to much unnecessary criticism. When it is sometimes said, loosely, that psycho-analysis has the purpose of ' making the unconscious conscious ', this does not, and cannot, mean that the unconscious is to be abolished. It merely means that, by a lengthy and complex process of analysis, we try to achieve a better mastery over our unconscious conflicts ; and so we are able to put our energies to a use which is more in harmony with our conscious intentions. Freud expressed this in the famous phrase ' where id was, there ego shall be '.

The account given by Dr Jones in the first volume of the biography leads up to the theory of dream interpretation. This theory marks the end of the first phase of Freud's development ; and he always regarded it as a corner-stone of psycho-analysis. Here, again, we can see how the indirect and seemingly far-fetched interpretation of the phenomena has turned out to be scientific rather than the direct and ' natural ' interpretation as given, e.g. by the Egyptian dream book. According to the dream book, every event dreamt about is taken either as a memory or as a prediction, as if the event either had happened or is going to happen. This confusion of physical and psychical reality is the more convincing since, according to Freud, every dream contains a ' residue ' of past experiences and also expresses an unconscious wish of what we should like to experience in the future. Sometimes we are so much under the sway of our dreams that we tend to carry out what we think the dream has told us to do ; and so the prediction comes true and the interpretation given by the dream book appears to be correct. Thus we see that the criterion of success is not so simple and straightforward, at least in psychology, as we are normally led to believe.

With the *Three Essays on the Theory of Sexuality*, Freud entered the main stage in the growth of his ideas. These ' Years of Maturity ' are described in detail by Dr Jones in the second volume of the biography. The widening of the concept of sex made possible the genetic explanation of a variety of phenomena that, otherwise, would remain unrelated. The idea of infantile sexuality allowed Freud to trace the positions through which the libido develops ; thus he was able to determine the possible fixation points at which the development may be arrested and to relate them, for example, to the various types of human character. Methodologically what is important here is to see how much the integration achieved by a more comprehensive concept can contribute to the explanatory power of a theory.

Freud always insisted that psycho-analysis, though it had started in the consulting room, equally applies to the so-called normal phenomena. In his later years, he was mainly concerned with investigating the phenomena and products of human culture. Though some of these investigations are necessarily more speculative, in the absence of detailed data, there is no question that Freud opened up to scientific research a vast realm of phenomena which, otherwise, would have to remain inexplicable and even supernatural. In spite of the great number of books and essays written in recent years about the psycho-analytic implications of art, literature, religion, etc., we have hardly scratched the surface. Provided it is done with due caution, we may even hope that psycho-analytic theory will help us in understanding for example, the complexities and perplexities of modern science.

Theorising in psychology is fraught with more dangers than in any other field of science, for obvious reasons. Dr Jones devotes an interesting chapter (in the second volume) to the various ' wild ' schools which stem from psycho-analysis : they all end up, as Freud remarked, in denying the unconscious altogether. Or, dotting the i's, I might say that their theories have the purpose of denying the anxiety arising from unconscious conflicts, and this makes them more palatable to the general public. Adler, for instance, wanted ' to save the world from sexuality and base (everything) on aggression '. Clearly, the concept of aggression is too narrow to encompass the whole range of human behaviour. Jung's theories, among other reasons, are open to the objection that his concept of symbol is too wide : the symbolism has acquired a life of its own and what the symbols are supposed to refer to is forgotten. There is no need, however, to invoke transcendental principles in order to explain that there exist universal symbols, independent of colour, creed, and race, e.g. the snake as a sexual symbol. The reason, I believe, is much simpler than that. It is that all human beings are born and die in exactly the same way and that during their lifespan they are mainly driven by hunger and by love. I would say, then, that the fact that the savage, the infant, and the civilised adult all employ a similar symbolism has a very natural basis. It is, in the view of many psycho-analysts today, equally unnecessary to invent *archetypes* for explaining what goes on in our minds. This is merely a new version of the old copy theory of knowledge. And the main objection is, I think, that it is a *static* theory of cognition (if there is such a thing, over and above, and independent of seeing, hearing, etc.). It represents the view that cognition is an *act* by which we fit a fixed, eternal image to a permanent thing or vice versa—in contrast to the dynamical view of psycho-analysis which regards mental *activity* as a process. This is obviously not the place to argue the point more fully ; but I may add that a static theory, by denying the dynamical character of mental processes, equally denies the anxiety arising from them.

It is one of the big problems of the philosophy of science to explain the criterion by which we distinguish a scientific from a pseudo-scientific theory. Success in practice is necessary but does not suffice, and certainly not in psychiatry where the charlatan may even boast more ‘ cures ’ than the scientific practitioner. A modern theory—whether it be psycho-analysis or relativity theory or quantum mechanics—is very ‘ abstract ’ : not only its basic concepts but also the hypotheses it allows us to frame, and consequently the data for them are far removed from familiar experience. A theory of this type requires us not only to search for the evidence but even to interpret it, though the interpretation must of course be subject to certain checks and safeguards. A more ‘ natural ’ theory, which accepts the evidence as it comes, so to speak, like that of Fliess (and there are other examples in many parts of science), turns out to be fallacious. Another problem is to find out how a theory belonging to a ‘ living ’ science such as biology or psychology differs in structure, and even in purpose, from a theory of physics. The three books offer much that can contribute towards clearing up these and other problems, and they are indispensable for understanding the origins and development of psycho-analytic theory.

ERNEST H. HUTTEN

Selected Papers on Psycho-Analysis. Vol. I : *On the Early Development of Mind.*
By Edward Glover.
Imago Publishing Co., London, 1956. Pp. 496. 30s.

THE great majority of the twenty-eight papers presented here are concerned with early libidinal stages, early structural and functional activities, the inter-relation of psychic mechanisms, aetiological and developmental classifications of, and researches on mental disorders. Much of Glover's studies in the past are revealed as attempts to answer that very elusive question—what specific factors determine such and such specific symptoms. In psycho-analysis the question presents a peculiar difficulty if only because every observable manifestation is strongly over-determined. The pattern that is presented to the analyst, often in radically modified form, is but the latest repetition of a series of patterns that have been formed during successive stages in the development of the individual, where each successive manifestation has accumulated new features. Glover is far too sound a scientist to attempt any oversimplifications. One of the great merits of his work is that he can disentangle the skeins without sacrificing any threads.

A not very large proportion of the papers is concerned with such matters as the psycho-analyst's function, the position of psycho-analysis in the scientific world and very objective appraisements of its scope and limitations. In all these papers Glover shows the balanced judgment of the scientist. If psycho-analysis is very far from being universally accepted it has reached a stage when it cannot gain by adopting the defensive. It is a branch of science of which much is by its very nature unacceptable to the layman. Those who study the book under review, or any other written by specialists in this branch for their colleagues, must reconcile themselves to that fact and expect to find much in it that is to them downright incomprehensible. Nevertheless, Glover's writing is so clear and logical that the difficulties of following this highly technical subject are less than one might suppose, and this in spite of the fact that the very recondite terms and concepts of psycho-analysis are taken for granted even in those papers that were originally presented to a general audience. Glover repeatedly deprecates a tendency to ' water-down ' psycho-analytic conclusions when they are presented to non-specialists ; on occasions, for instance, as when a psycho-analyst is a member of a research team and has to present his conclusions to his fellow members of the team. The present reviewer feels sure that this is sound advice. No useful purpose can be served by any dishonest pretence that a given conclusion is really more attractive or easier to understand than it seems.

There is much good sense on questions of methodology. Glover is a strong opponent of a tendency towards hypothetical reconstructions of early phases of mental development without direct confirmation from clinical observation. He has occasionally some shrewd things to say about what he calls ' the fallibility of the instrument ', by which he means the analyst himself. A theme that recurs is the effect of fashion in the psycho-analytic movement. In paper XXVI this is linked with the training system. It should be explained that every analyst under training must not only submit to a thorough personal analysis but also take patients under the guidance of an experienced analyst. It is the strong influence that the training analyst exercises on the group that he or she guides about which Glover shows some uneasiness. ' There is a tendency ', he says, ' inherent in the training situation, to perpetuate error. Such a state of affairs clearly calls for the application of special safeguards.'

The range of the papers is very wide. The subject matter is highly specialised and the thought extremely condensed. To condense further for the purpose of a review would be impossible. At most a reviewer can attempt to convey the author's approach to his subject. Among Glover's major contributions to the theory and practice of psycho-analysis are his theories of ' nuclear development of the ego and functional aspects of early mental development.' But these are too highly specialised subjects to call for detailed discussion here. A more general, but not less important feature of these papers is an appreciation of each of a series of complex situations. In psycho-analytic language these are labelled respectively by the concise terms oral, anal, and genital phase. The first of these phases has always had a particular interest for Glover and is discussed in detail in several of the papers. It is viewed as very much more than the act of sucking. The whole situation in which the infant finds itself, its limited field of perception as experienced by eyes, nose, mouth, and skin, its posture, the range of activities from crying to falling into a satisfied sleep, its imperfect awareness of anything outside this limited range, all this and much more belongs to the oral phase and has its influence on later development. To Glover it is important that speech has not begun at this phase and he thinks that interpretations may fail when they overlook this significant fact.

Apart from their intrinsic merit, reproduction of these papers in a single volume should be welcomed by all who are concerned for the healthy development of psycho-analysis, for they consolidate psycho-analytic theory. It is necessary from time to time for someone with balanced judgment, insight, and objectivity to do this. A more suitable person for the purpose could not be found.

I wish now to say a few words about a topic of special interest and importance to which these papers are very relevant.

The intrinsic nature of psycho-analysis has caused it to be the origin of splinter movements. The reason for this is rather profound and different from the reason why schisms sometimes occur in other disciplines. In these personal ambition may lead people from time to time to found new movements ; but in psycho-analysis the reason goes deeper and is more implicit in man's nature even than ambition. Briefly, it lies in the fact that the unconscious is unconscious.

Conceptually the notion of unconscious thoughts and feelings is difficult enough. We all tend to think that we must be aware of whatever passes in our minds. Philosophers have for centuries equated mind with consciousness. To postulate not one unconscious but two, namely, a pre-conscious and a second, more inaccessible, unconscious department of the mind is bound to be rejected by commonsense. At most one is, when first introduced to this notion, prepared to accept something nearly, if not quite, conscious—something thought of as a faint sub-conscious. But psycho-analysis demands acceptance of more, much more. Even the psycho-analytical pre-conscious is in no sense conscious, though it may become so without great difficulty. The second unconscious always remains so and, far from faint, its content must be thought of as violently active, as more so than anything usually manifest in consciousness.

If this is conceptually difficult the psycho-analytical view of the content of the unconscious presents more than this intellectual obstacle. It presents a formidable emotional one as well, for according to psycho-analytical theory the content of the unconscious mind consists of thoughts and feelings that must be repudiated when first encountered. Indeed it is just because of this repudiation that they are excluded from consciousness.

One should not expect it to be otherwise. It would be surprising indeed if we were to allow ourselves to be conscious of everything that causes pain and shame, that might arouse a sense of guilt, that is repugnant to the civilised man, while relegating to the unconscious those things that please us and that we are proud of. Nevertheless it is only natural for each of us to shrink away from the suggestion that he harbours, no matter how deeply, how unconsciously, material that, if presented as thoughts and feelings, would be incompatible with his notion of a civilised person.

The work of discovering the painful content of the unconscious is no less unpleasant to the psycho-analyst than to anyone else, just as work in the dissecting room is unpleasant to the medical student. But he has to get used to it. When he does he sees the contents of the unconscious, largely though not wholly, as material left over from early stages of development. In Freudian psychology the need of the individual, particularly for the first few years of his life, to adapt to rapidly changing situations is of decisive significance for his later development. The situations described by the terms oral, anal, or genital are but three typical ones in constantly changing conditions. At each stage the child has a different physiology and lives in a different environment. It must adapt its behaviour pattern to both. It must learn much—and forget much. What it forgets is, in technical language, said to be relegated to the unconscious. What it learns at each stage must in turn largely be forgotten, in this specific sense, before the next stage can be successfully achieved.

The environment imposes certain standards of conduct. It is adaptation to these that has a peculiar significance in psycho-analytical theory. Much to be read in case histories is concerned with incidents and situations that have hindered a proper adaptation. When this happens there is a tendency for what should be forgotten to be retained, though possibly in a form that is almost unrecognisable. Psycho-analysts then speak of a fixation.

I have briefly mentioned this developmental theory, although it is familiar to all who have a nodding acquaintance with psycho-analysis, because it is relevant to the above-mentioned tendency to form splinter movements. The material that has to be forgotten, to use the above non-technical term, was appropriate to the behaviour pattern at one time but cannot be retained by a civilised being in a later pattern. This material is found to have a very highly charged emotional content. It is from the unsuccessful adaptation in the early stages that all psychological disturbances and perversions are found to originate. It is this violent and necessarily unpleasant content of the unconscious that gives rise to the inclination to repudiate psycho-analytic theory in at least some of its aspects.

The repudiation can be effected in a variety of ways. Some repudiate the necessity of admitting any emotions, or even thoughts, into the field of psychological studies. They declare that the whole field is adequately covered by observation of dials and cathode-ray screens. Others admit that thoughts and feelings are proper subjects for methodical study but would limit the range of their observations to what is conscious. Yet others recognise the importance of the unconscious but are not prepared to face its unattractive aspects. It is these who have from time to time founded the splinter movements.

This has to be recognised. What distinguishes all these movements is not so much what they add to the study of the unconscious as what they ignore. The ignoring, in particular, makes the splinter movements more acceptable than classical psycho-analysis. The notion of Jung's collective unconscious is free from the unpleasant associations that go inevitably with the notion of any fixation point. It is far less hurtful to one's self-respect to believe in a tendency to be a ' top dog ', in the Adlerian sense, than to have to accept the shame-making implications of Freud's theories. The universalising of impulses, again, which is implicit in some of the splinter movements, is at the same time an impersonalising. In classical psycho-analysis every incident and situation that is significant for future development is a personal experience—peculiar to the individual concerned and therefore peculiarly painful to him. Any theory that ascribes the aetiology of a symptom to something common to everybody is less painful. To attribute his ills to the universal experience of being born, as was done by Otto Rank, enables a person to avoid the painful recollections of the actual, very personal, incidents that have, in fact, hampered his emotional growth to maturity. To dwell overmuch on the mechanisms by which the whole, or parts of the so-called good and bad parent is introjected may similarly help, rather than break down, the defences against decisive unconscious memories. This does not mean that such common experiences as introjection of objects and part objects may not be real and may not be significant. If the splinter movements presented their contributions as additions to the unattractive story of the individual's development they might possibly constitute advances to psycho-analytic theory. Only when they serve as substitutes, or at least provide a pretext for ignoring what is unattractive, must they be regarded as forming an opposition to psycho-analysis rather than as making constructive contributions to it.

Glover's papers take the student over and not round the intellectual and emotional hurdles that he must negotiate before he can become an efficient psycho-analyst. For this reason, if for no other, their republication will help to keep the psycho-analytic movement on the right, though austere, lines. It is necessary from time to time to remember that the student of psycho-analysis must face the psychological equivalent of the dissecting room.

Reginald O. Kapp

New Directions in Psycho-Analysis, edited by Melanie Klein, Paula Heinmann, and Roger Money-Kyrle.
Tavistock Publications, London, 1955, pp. xiv. + 534, 38s.

New methods and ideas have been introduced into psycho-analysis by Mrs Melanie Klein ; she has developed them in this country during the last thirty years and before that in Berlin for a decade. A volume has just been published in which sixteen contributors, working with her ideas, deal with theoretical and clinical questions and also make applications to art, ethics, and social subjects. Since the book has reached me only as the present number is going to press, it is impracticable to review the individual contributions. The significance of the work for this number, however, is to be found mainly in what underlies all these contributions, namely the ways in which Mrs Klein either goes beyond Freud or differs from him. It will be appropriate, therefore, to attempt to state her basic views.

These have to do with clinical concepts and mechanisms, further theoretical considerations, and technique.

Freud and Ferenczi had introduced introjection to analysis, where it played an important though minor rôle. Mrs Klein gives it a dominating position : she holds that all sorts of objects are introjected, i.e. that there are ' internal objects ' resulting from the introjection or phantasied incorporation of either of the two parents or parts of them. A part of a person (such as a breast) is called a ' part-object '. These introjected (or internal) objects, whether whole or part, are felt to be either good or bad because the child projects his own feelings into them. This is the main structural hypothesis.

Disturbances are held to be due to one or other (or both) of two things (*a*) loss or destruction by the self of internal good objects, and (*b*) persecution of the self by internal bad objects. These disturbances are experienced respectively as depressive-anxiety and persecutory-anxiety. Thus they result from attacks by or on the self. Aggression therefore plays at least as important a part as sexuality ; it is given a central position which it hardly occupied in Freud's theory.

Against these effects there arise various defence-mechanisms. Mrs Klein would acknowledge those recognised by Freud, but would lay special stress on two of them—introjection and projection. These she regards as far more extensive in their influence than Freud and also as more basic in that they underlie the others. Further, she attaches great importance to certain new mechanisms which she has added. One is reparation, which is perhaps not strictly a *defence*-mechanism but an ' acceptance '-mechanism. It is used by a person to make good the damage he has inflicted on his good internal objects (this is held to contribute to all positive and constructive activities in life). Another is the mechanism of splitting. Splitting processes are different from those of the dissociated trains of ideas of earlier days, in that they involve splits in the personality and splitting of internal objects. Another is projective identification. This is held to be the mechanism at work, for instance, when a split off aspect of the self, either when attacking a good object or when attacked by a bad one, is projected and identified outside with somebody else. Whereas in projection a dangerous object is merely removed from close quarters, in projective identification a conflict is experienced in a projected form. The rôle of these mechanisms is to preserve a predominance of good objects within the orbit of the self.

These concepts and mechanisms are used to explain a wide variety of phenomena, such as sublimation and symbol formation, as well as psychopathology. They would presumably help to explain the process of repression. Therapeutically they opened up the way to analysing very young children and also psychotics.

Mrs Klein takes a new view of the (closely related) super-ego and the Oedipus situation. According to Freud the Oedipus situation reaches its greatest intensity at about the age of five. This passes as a result of a process in which the boy gives up his libidinal desire for his mother and his hate for his father by internalising his father as his super-ego. All this takes place, according to classical theory, on the genital level. On Mrs Klein's view, however, the Oedipus situation and super-ego exist much earlier. She conceives their structural relationships much as Freud did, but she holds that they are manifested in pregenital ways, i.e. that the relationships between the persons concerned take on an oral or anal form in the boy's mind. The chief difference is that the super-ego consists of introjections of the mother as well as the father and also of introjections of parts of them (and clearly castration has to be replaced by a more extended concept). (Incidentally her view implies that the super-ego includes benign ingredients, whereas on Freud's view it is for the most part a thoroughly savage object.)

In this connection there is a difference from his view of development in the girl. According to Freud, penis-envy is a normal reaction to the factual anatomical difference between the sexes and to the girl's phantasy of having been castrated (he held no equivalent theory for the boy, such as a breast-envy, which could *prima facie* be supported on similar grounds). In a couple of fundamental papers published over twenty-five years ago Ernest Jones put it forward that penis-envy could be regarded as a defence by the girl against realising her femininity. Mrs Klein would regard it not only in this way but also as a defence against other attitudes towards the parents, such as the wish to rob the mother of a breast (the sense of being unable to hold on to the stolen goods leading her to feel she has lost her femininity).

To see how the theory about the structure and function of internal objects gives rise to the Oedipus-situation requires an additional piece of theory. This is the theory of the ' paranoid-schizoid position ' and of the ' depressive position '.

What is meant by the ' depressive position ' is an overall state of mind, in the sense in which mourning is a state of mind, displaying itself intermittently over, say, a couple of months during the first half year. What happens, according to Mrs Klein, is this. Before its onset, the infant has relationships only to good and bad part-objects—it knows its mother's breast and has rudimentary personal relationships with it but does not know its mother as a person. Bringing the good and bad parts together and learning of its mother as a whole person is the ' position ' in question ; but it is depressive, because, insofar as integration has not been completed, the attempt to complete it produces a sense that the unintegrated good and bad parts are kept separate or the good parts destroyed by the infant's own destructive attacks on the mother. This was the original conception of the depressive position. Fundamentally it is a position in which ambivalence towards one object is tolerated instead of splitting it into two. From this a short step has led to the inclusion in the depressive position of any integration of good and bad part-objects whether or not recognition of a whole person results.

A ' paranoid-schizoid position ' is presumed to come earlier, characterised by a sense of destructive attacks on and by bad part-objects. It is called ' paranoid ' to stress the attacks by part-objects on to which aggression is projected, and ' schizoid ' to stress the split (in the sense of pre-integrated) nature of what goes on.

Both positions are characterised by anxiety, distinguished as ' depressive-anxiety ' and ' persecutory-anxiety '.

How does all this explain the genesis of the Oedipus situation ? This is done by a hypothesis that the boy, frustrated in his demand for his mother (i.e. greed for sexual satisfaction by her breast), develops the phantasy that he is deprived of this part-object, thus suffering from a persecution, by another part-object later recognised as representing his father. When the collections of part-objects become integrated into persons we have the oral form of the Oedipus.

This concludes the account of the more important new, and new use of, clinical concepts and mechanisms. There is no space to go into further detail to do with, for instance, phantasy, fixation-points, combined-parent concept, and so on. It may be mentioned that in developing orality as well as introjection Mrs Klein has followed a line indicated by Freud and stressed by Ferenczi and Abraham.

In matters of technique Mrs Klein has introduced as far-reaching departures as in theory. The changes may be described as : (i) constant (daily) use of ' here-and-now ' interpretations involving the analyst and if possible full transference-interpretations (negative and positive) ; (ii) constant interpretation of the patient's relationships to his internal (as well as external) objects ; (iii) constant interpretation of persecutory and depressive anxiety. These do not exclude the use of the interpretations of classical analysis which are given as well.

Interestingly enough there is nothing in the theory to require the adoption of the first, nor is there anything to prevent a classical analyst from adopting it consistently with Freud's theories.

The chief point of significance here is perhaps the underlying idea that transference readily comes about (according to classical ideas it grew rather slowly), and that both children and psychotics form transferences at once (analysts used to hold that it was impossible to ' establish contact ' with psychotics, and there was a belief, possibly still held by some, that children do not form transferences in the classical sense).

Clearly the hypotheses about the action of internal objects are in general of a clinical type. The theory of ' positions ' appears to be less clinical, which is because of the ascription to a particular date : but, this apart, the theory can have clinical application in just the same way as the classical Oedipus theory can. Just as Freud gave the Oedipus theory without including in the statement of it the date of onset, it would be preferable to have the theory of positions stated without the immediate inclusion of the date, so that it would clearly have the status of a theory with clinical application (and then add the further hypothesis about dates, as a distinct historical hypothesis). This is all the more desirable because the theory is a theory about structure and function, which is ahistorical and should therefore be distinguished from a hypothesis that is historical.

There is one other theory that should be mentioned—that of the death-instinct. It is of some interest that few psycho-analysts who followed all Freud's other ideas accepted that theory ; but Mrs Klein, though differing notably from him in some ways, takes over this theory ; and very nearly all of her school regard it as of great importance. (It appears to be a non-object-relation theory for her as for Freud.) There is just as much difficulty in seeing what clinical bearing or explanatory power it has with her approach as with Freud's ; just the same difficulty in understanding why it is regarded as needed at all ; and just the same difficulty in admitting it to the status of a scientific theory.

We have now to enquire into incompatibilities between Mrs Klein's views and Freud's. Since hers is throughout an object-relations theory it would seem to be definitely incompatible with Freud's theories of primary narcissism and libido and to require revision of ego-theory (though compatible in essentials with all the rest). Whether or not members of her school have worked out new theories in their own minds to replace Freud's, while preserving as an element whatever may have been approximately true in his, almost no work of this kind has been published. To this extent therefore the theory has not been integrated or made systematic.

The theory has generated a good deal of opposition. Various objections appeared in print several years ago, and I noted at the time that they had an *a priori* character or were based on ' general considerations ', and thus carried no methodological weight. On the other hand, the failure of objections of this sort in no way lends support to the theory. The acid test of it (apart from the instinct theory), as with Freud's clinically applicable theories, is quite simply whether clinical interpretations derived from it are confirmed or refuted. The theory has a clinical application just as Freud's Oedipus theory has. It is therefore in about the same position as regards confirmation or refutation by interpretative work as his. Whether it is true or false depends on the responses to interpretations using it ; it stands or falls by these. The theory, like all others, may be quite false, but it is unscientific to attack it otherwise than through the means of testing it. A different type of objection should be taken more seriously, however : that the technique based on the theory overlooks or omits important factors, such as matters of reality ; some analysts hold that some ostensibly oral material should be understood not mainly in oral terms but as a regression from later phases (objections of this kind should be capable of being investigated fairly easily, and being capable of investigation they are reasonable objections even if they should turn out to be unfounded). Another type of objection would be that clinical results are more likely to be due to suggestion than in classical analysis (this would be much harder to investigate).

The opposition to Mrs Klein's innovations evokes certain reflections. Instead of looking into them to see whether they could be confirmed or refuted clinically, there has been some attack and defence of an unscientific kind. Thus there arises the question of taking sides ' for ' or ' against '. This has no meaning scientifically. One cannot take sides ' for ' or 'against ' atomic physics ; likewise there should be no question of taking sides ' for ' or ' against ' psycho-analysis or any of its theories. And Mrs Klein's contribution deserves to be accorded the same position. Certainly a scientist may be in favour of a theory that is strongly confirmed, but he is required nonetheless to be always ready to take seriously the other side of the case.

Such an issue can easily turn into a dispute about ' insight '. In general analysts tend to stress insight as the basic necessity for understanding the subject, while non-analysts overlook it. Obviously insight is essential. But it is sometimes forgotten that this is a universal requirement—one cannot be a physicist or a lawyer without insight. Without it one cannot get to grips with a field of enquiry in a serious way. But insight is no guarantee of truth. The history of science is scattered with the skeletons of insights that perished at the hands of reality. Insight opens the way and one cannot operate without it ; but it has to be put to the test. Thus the issue is not a matter of insight or lack of it, but a matter of confirmation or refutation of what insight seems to reveal.

Connected with this, there seems to me to be a strongly patriarchal character about classical analysis and a strongly matriarchal one about what might be called ' imago ' analysis, which would bear on the difficulty of reconciling cleavages of opinion about them and the difficulty of concentrating single-mindedly on the evidence. This might have something to do with the fact that Mrs Klein has been regarded on occasion as ' deviating ' from psycho-analysis proper, like Stekel, Jung, Adler, Rank, Reich, and Horney. One may be permitted to remark that few fundamental contributions to science have been made by women and that, if Mrs Klein's work may conceivably be given a place beside that of Sonja Kowalewski and Marie Curie, it would be scarcely surprising if she had a line of her own. But ' deviating ' is not a scientific concept. Freud, scientist though he was, unfortunately sanctioned this quasi-political or religious conception in speaking of the psycho-analytic ' movement '. In science there can be no deviation or adherence—only changes that will be refuted or changes that will be confirmed. Certainly some of those mentioned (but not all) can be dismissed in the way someone who begins as a doctor and gives it up for herbalism may be dismissed ; but, apart from this kind of disregard for existing knowledge (which cannot be called ' deviationist '), one cannot pronounce a theory to be deviationist, for this would imply at the very least that one could tell in advance that it would not survive testing.

Most of the fundamental sciences are in difficulties at present ; this is certainly true of quantum mechanics and is true even of relativity. The position in psycho-analysis is perhaps somewhat more serious, though not greatly so, than in these fields ; the way out can be found only by grappling with the difficulties with scientific rigour.

J. O. Wisdom

Energy and Structure in Psychoanalysis. Kenneth Mark Colby.
The Ronald Press Company, New York. Pp. ix + 154. $4.50

Any science has statements in it which are generalisations from observation and other statements which are explanatory of those generalisations. In a well-developed science the explanations are frequently in terms of invented entities which have been specifically endowed with properties so that statements about them are as explanatory as required. Psycho-analysis is no exception. The observations by psycho-analysts are of people lying on couches and on what they say under certain 'laboratory'-consulting room, conditions. From early times (1895 was the date of Freud's first model) Freud or other psycho-analysts have endeavoured to invent entities having structure and activated by mental energy so that they could explain the behaviour of their patients.

Dr Colby has attempted in this book, by discussing the constructs of energy, drive, and structure to examine their nature and the adequacy of the models of which they are part. In his turn he proposes a model of his own. Thus, the book falls into two parts. At the beginning there is a discussion of the status of the theoretical terms, and at the end there is a description of a cyclo-circular model and its empirical usefulness. There are two points of general interest to the philosopher of science. The first is that metapsychology as used by Freud is not the same as meta-psychology in the sense in which the prefix 'meta'- has been used by Hilbert and Tarski elsewhere. It is used by Colby mainly in the Freudian sense of any discussion of high level ideas in science. It covers what may be called theoretical speculation, as opposed to a discussion of the statements of the science. In fact, of course, it is difficult to do one without the other, and Dr Colby's approach to his discussion of energy, instincts, and drives is very valuable from the Hilbertian point of view.

Secondly, there is a discussion of the use of models in science and we see one being constructed for us. One notes that the author thinks that there are three methods that can be used for describing structure: (*a*) ordinary language; (*b*) language implemented by symbols and calculi; (*c*) models and diagrams.

This approach to models seems to me to lie at the very root of the objections that I have to the book. I believe that science consists of statements and that it is the logical relationships between statements which enable us to derive consequences, make predictions, explain things, and so forth in science. In this case, the importance of any high level constructs in science is simply whether one can say what one wants with them. The rôle of models is that they are heuristically important in that they suggest statements. A model is useful in my opinion, because by depicting something in subject *A* statements can be made about it in subject *A*. We can then use those statements in subject *B* by changing the subject matter signs from those of *A* to those of *B* and by picturing *B* things as being related as the *A* things were. Things in *A* and the statements about them then become the *model* for things in *B*. Usually the model is not a completely good one. In other words, the isomorphy between the two sets of statements turns out to be partial and not complete. A complete isomorphy frequently leads to falsification of some statements in *B* whereas this did not occur in *A*. We find the model helpful because subject *A* is well-established and we know from experience how to manipulate its statements and we hope that this will facilitate calculating in B.

Hence it is constantly important to ask of Dr Colby what statements can be made or do we want to make with psycho-analytic constructs and what statements can be made using a new model that cannot be made in terms of the old.

It is in this light that one wants to review the book, for briefly, the first part is stimulating and I believe important immediately, whereas the second is weak. The defect here is that Dr Colby is *building* a model that has not been used elsewhere. I mention this because there are defects in *building* instead of *using* models, and in any case there are models he could have used to say more about his own. For example, any circular model such as he describes could be dealt with in cybernetic terms, and it might have been profitable to have done so. Even if it would not improve the position it would have been using the idea of models more satisfactorily.

The chapter on the construct of energy is valuable. The author is aware that mental energy is a construct based on the model of physical energy. Further, if the application of the model is to be useful then mental energy must possess certain characteristics if the statement-systems of the two types of energy are to be isomorphic. For example, energy is measurable in the physical sciences. How is the quantification of mental energy to be made? Moreover, unlike physical energy psychic energy (or ' Cathexis-energy ' as Colby terms it) must be related to structure in such a way that goal-directed behaviour can be explained. I am not sure that this is essential as Dr Colby maintains, or whether at lower levels of theory our descriptive technique has a teleological bias which makes generalisations of behaviour include goal-direction and which could be suitably avoided by rephrasing.

In the subsequent chapters the confusion of aims between model-building and statement-forming seems to me to grow. In the chapter on the construct of drive we are asked to consider drives as structural components of the Psychic Apparatus activated by Cathexis Energy. We find that these components are to be called schemas and that they contain as concept meanings built-in purposive aims. Here the confusion can be seen. It would, I feel, be clearer and more useful in the science if Dr Colby realised that he must be talking about types of statement and not about types of cogs in a sort of psychic engine. Note that if he had had an engine in mind where the properties of the cogs were known and applied here the situation would be more helpful, but he has no such model. As the description of the model develops we get nearer to confusing model description and farther away from its statement aspect. Reading and understanding become increasingly more difficult and clarification starts to recede.

One is tempted to give examples of what must be almost meaningless statements in *psycho-analytic theory* with which the discussion of the model abounds, but it would be unfair to the author. Unfair because my point is not that he is saying nothing, but that he is misusing the concept of models, and is consequently not saying what he wants to say nor what he should say. In the last analysis one is entitled to ask what use the model is. Dr Colby devotes some thirty pages to answering this question. I must confess I was little wiser at the end of this section than at the beginning. Yet, even here some interesting things of a more general nature are said, especially with respect to time. However, free-association, the ascendancy of the pleasure-principle over the reality principle, and the affect process are all said to be discussable in terms of the model. Unfortunately *discussability* is not the object of inventing the model. *Explanation* is what the process is for and in this case the result does not help.

The book represents a challenge for some hard thinking to be done. I am sure, in spite of my remarks above, that the book has an importance in the subject and will gain immensely if the author or someone else could rephrase the model into a set of statements and can show how they are related to one another to form a clearer psycho-analytic theory.

R. F. J. WITHERS

Psychoanalysis as Science: The Hixon Lectures on the Scientific Status of Psychoanalysis. Edited by E. Pumpian-Mindlin.
Stanford University Press, Geoffrey Cumberlege, London, 1952.
Pp. x + 174. 34s.

THIS little book consists of five lectures by three authors. Dr Hilgard gives an excellent account of some of the experiments that have been devised to test various psycho-analytic hypotheses. His first lecture describes experiments bearing on specific attitudes and mechanisms postulated by psycho-analysts, and the second describes some experimental studies of neuroses in humans and animals. He provides a most useful survey of the work in this field, most of which is to be found only in journals.

Dr Hilgard does not mention whether there are any experiments that tell against any part of the theory. The experiments discussed provide confirmation in that if the hypothesis to be tested were false it would be almost inconceivable that the experiments should have come off. But it is not at all easy to see what sort of experiment would refute a psycho-analytic hypothesis; for, if an experiment failed to work, i.e. led to no results, the hypothesis considered might none the less have been true. Thus one hypnotised subject was told she was suffering from a certain conflict and was asked to dream about it. Her dream bore no obvious relation to the conflict to anyone who could not read the symbolism. Another hypnotised subject was told the dream and was asked what it meant. This she did easily and correctly—a thing she could not have done in the waking state. Clearly such an experiment might have failed, i.e. the second subject might have been unable to interpret; but this would have left the hypothesis of dream-work untouched. An interesting state of affairs would arise if she gave some wrong interpretation; should we interpret such an eventuality as refuting the hypothesis or merely as giving some information about the misinterpreter?

Professor Kubie is the methodologist of the symposium. He is a psycho-analyst who is well known, not only for contributing an idea twenty years ago that is now widely accepted in cybernetics, but also for his discussions of psycho-analytic theory. His two lectures are devoted to problems and concepts. They have the great merit of being very fully illustrated with brief and pertinent excerpts from his cases. On the methodological and theoretical side he asks many questions, but he does not venture answers. He outlines various tests that provide confirmation of aspects of psycho-analysis, but he is not really satisfied with the standard of testing so far attained.

These four lectures are of interest. But it cannot be said that they make any striking contribution to the theme. Dr Hilgard's lectures are valuable because they make certain material more readily accessible, but it is not unknown. Professor Kubie has raised some of his questions, if not all, before, though the presentation given here possibly improves on his earlier papers.

The final paper, by the Editor, is a mystery. It is said to relate psycho-analysis to biology and the social sciences. Actually it is an elementary exposition of psycho-analysis, which might conceivably have been placed at the beginning of the book. But it is in fact out of place in a work of this kind, which is presumably intended for a more sophisticated audience with a considerable knowledge of the subject.

J. O. WISDOM

The Journal of Analytical Psychology, Vol. I, No. 1. Edited by Michael Fordham.
Tavistock Publications, London, 1955. Pp. 108. 21s. per vol. of two issues.

THE publication by the Society of Analytical Psychology of London of this, the first issue of a journal to be devoted mainly to the clinical applications of the work of C. G. Jung and his school, gives a new opportunity analysis and the work of his school still has much in common with psycho-analysis.

The (Freudian) psycho-analysts, partly in collaboration with other social scientists (especially academic psychologists), partly under the influence of physical medicine, and partly in response to impulses of its own originated by Freud himself, have made some progress towards discussing their science in terms more congenial to the readers of the *Journal.* The Jungians are not quite ready to begin such a discussion. Some of the contributions to the new journal suggest that they can move towards it. In the meantime, the rest of us would do well to go half the way, or more than half of it, to meet them ; a compulsive insistence on methodological purity would simply forbid a dialogue that might be profitable for all concerned.

Of the contribution to the first issue, these by R. Hobson, ' Archetypal Themes in Depression ', and L. Stein, ' Loathsome Women ', convey the distinctiveness of the Jungian position with most clarity and effectiveness. (A. Storr's ' A Note on Cybernetics and Analytical Psychology ', like so many other attempts to extend the scope of what is called Information Theory, provides a verbal rather than an intellectual transformation of terms.)

Dr Hobson's article is especially useful for its explicit attention to the central Jungian concept of the archetype. Archetypes are collective possessions, inhabiting individual souls. The primary forms of internal experience, they constitute at once the invariant concerns of the human race and the unique preoccupations of the individual. The individual's relationship to the archetypes is, indeed, the most critical one in his life and is the focal point of a Jungian analysis : overwhelmed by the archetypes the individual will lose his individuality, but alienated from them, he will lose contact with the primal sources of life.

Dr Hobson's remarks on his clinical data show some awareness of the problems inherent in the use of general ideas of this kind. The Jungian archetype really recalls two traditional problems in social philosophy and epistemology, respectively. The first is the question of individual and group. to obtain knowledge of the most notable and influential of the original deviations from classical Freudian psycho-analysis. The Society is, in fact, the largest group of Jungian analysts in the world. The spiritual centre of the Jungian movement, however, remains in Zürich and in the German countries and the continent generally, where it has had considerable influence on psychiatry, the study of religion and mythology, and philosophy. The reader of this *Journal*, encountering the work of the Jungians for the first time, will enter a world not unlike that of contemporary European metaphysics, a world of thought vivid and immediate, rich in insight and prophecy, cosmic in scale and yet neither precise nor orderly in its analysis of human experience. The new publication has a certain relevance to this number, because Jung once made contributions to psycho-

On first sight, the Jungians appear to have solved this question by hypothesising a transmissible group unconscious. The second is the question of the ultimate referent of concepts dealing with mind. Are the archetypes simply ways of designating certain common psychological properties of successive human generations, as revealed in their personalities, their customs, their culture? Or are they in some sense real entities? Dr Hobson proceeds with a good measure of sophistication and finesse, even if he does not confront these problems *in extenso*. Surely, discussion of these matters will enable the Jungians to increase the precision and scope of their generalisations.

Dr Stein's article, which embodies a fascinating range of erudition, uses the mythology and folklore of witchcraft to analyse the behaviour of some disturbed female patients. So intimate is the connection between the interpretation of myth and symptom in his case report that it is difficult to see how the symptom elucidates the myth or *vice versa*. They both seem to be facets of the same indistinct thing. Again, an increase in clarity would lend both conviction and generalising power to Dr Stein's brilliant performance.

Dr Stein's article is also noteworthy for its emphasis on the integration of the personality, a major theme in Jungian work and one which corresponds to the emphasis on the ego in Freudian psychology, just as much of the Jungian work on splitting processes in the personality seems to correspond to that of the Kleinian psycho-analysis. Not the least value of this new venture is the possibility it opens for disinterested discussion of all these and related matters.

NORMAN BIRNBAUM

ANNOUNCEMENT

PHILOSOPHY OF SCIENCE CONFERENCE

A meeting of the Philosophy of Science Group will be held at College Hall, Leicester, from Friday evening, 28 September to Sunday evening, 30 September 1956. Particulars of the programme, etc., can be obtained from the Assistant Secretary, Mr R. F. J. Withers, the Middlesex Hospital, London, W.1.

On the Friday evening, after dinner, it is proposed to have a discussion on a number on short papers, each lasting a quarter of an hour. Those who would like to contribute papers to this discussion should send the titles of their papers to the Assistant Secretary.